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THE MARINE CORPS GAZETTE

WASHINGTON, D. C.

Vol. 21 FEBRUARY, 1937 No. 1

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Opinions or assertions in the articles are the private ones of the writers, and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

Entered as second-class matter, March 27, 1929, at the Post Office, Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized November 23, 1918.

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THE MARINE CORPS GAZETTE
LIEUTENANT COLONEL A. DECARRE, U.S.M.C., *Editor*

Published Quarterly By
THE MARINE CORPS ASSOCIATION
Room 3025—Headquarters U. S. Marine Corps, Washington, D. C.
Printed at 32nd St. and Elm Ave., Baltimore, Md.

Authors are responsible for all statements contained in articles published in this magazine.

THE MARINE CORPS GAZETTE

Vol. 21 FEBRUARY, 1937 No. 1

THE WAR IN SPAIN

By Lieutenant Colonel Robert Blake

■ The Spanish Civil War merits the interest of Americans in general because it involves a battle for supremacy between the exponents of two conflicting radical theories of government, each of which is opposed to the Anglo-Saxon conception of democracy as developed in the United States; each of which has its exponents on American soil.

It is of interest to Marine officers in particular, as students of international affairs, because of the repercussions the outcome of the war may have in Spanish-America, for Spain has retained the intellectual leadership of its former colonies to a degree perhaps unrealized in the United States. The names of Unamuno, Ortega Gasset, Salvador de Madariaga, Ramon Menendez Pidal, the Quinteros, Benavente, and many others, are as familiar among the intellectuals of Spanish-America as in the peninsula. Even Spanish-American authors publish to a surprising degree with Madrid and Barcelona houses. That this influence is realized in Spanish-America is indicated by the aid furnished the Spanish government by leftist Mexico and the sympathy extended to the insurgents by rightist Guatemala, El Salvador, Nicaragua, Paraguay, and Chile in the form of recognition as the legal government of Spain. So, should the government suppress the revolution, an impetus to radicalism in Spanish-America may be expected, while an insurgent victory will more firmly entrench existing conservative dictatorships and may bring trouble to radical governments.

The ecclesiastical background of the conflict has been omitted from this article for obvious reasons. Nevertheless, the issues involved and the bitterness with which they are being contested cannot be understood entirely without an unimpassioned survey of the position of the Church in the economic and political life of Spain.

So far as Spain is concerned, there is nothing new involved in the present war. Its origins can be traced to the ascent of Charles Hapsburg to the throne in 1516. Flemish bred son of Philip the Beautiful of Austria and Crazy Jane of Castile, grandson by his insane mother of Ferdinand and Isabel, he subdued with bloody hand the uprising of the Castilian Communes in defense of their local statutes and against his ruthless imposition of absolutism. The inspiration and leadership of the revolt of the cities came from the nobility, but some of their demands sound Communistic even in this day. These were principally as follows:[1] That each royal patrimony send two representatives to Congress, one a noble, the other a laborer; that the king was not to have freedom of choice in appointing the governors of cities, but from among the candidates proposed by the cities he was to select two, one a noble, the other a laborer; that he was not to take money out of the kingdom; that the use of arms was not only to be authorized, but every person was to be obliged to possess them according to his quality.

Due to internal dissension, the movement failed, the leaders were executed. But the names of Juan de Padilla, Juan Bravo, and Pedro Maldonado have been remembered with honor and affection ever since.

Absolutism, once established, was never seriously threatened during the lifetime of Charles I or his competent painstaking son, Philip II. But even under the latter the Moors revolted in the mountains of southern Spain, while riotous demonstrations in Aragon against absolutism and the Holy Inquisition forced the king to resort to arms to maintain the position of the throne. During the reign of Philip IV, serious disturbances in the Basque Provinces, Andalusia, and Aragon, revolution in Catalonia, and the separation of Portugal, began the long, tragic series of internal disturbances that have continued, on and off, to this day.

Economics, equally with politics, are undoubtedly responsible for much of Spain's intranquillity. It seems always to have been a land of hunger. Even the Moslems were unable to make a living in the northern meseta, for constant hunger forced them in 753 A. D. to evacuate the Berbers who had been settled there shortly after the conquest of the peninsula. The Italian impression of the soldiers sent to Italy by the King of Aragon is exemplified by the statue of Rodriguillo Español which portrays a ragged youngster seated by the roadside diverting his thoughts from last night's hunger by plucking thorns from his bare feet.[2] Under the Hapsburgs conditions were little better, for the gold that flowed from America was so quickly wasted in warfare that, outside of the capital and some few cities, Spain lived in tight straits when not in downright misery.[3]

Absolutism ended definitely with the death of Ferdinand VII in 1833. But the inability of Spain to develop responsible party government through the alignment of the population into two principal political groups that would assure an administration a solid majority in Congress to support its policies, has resulted in the failure of modern Spain to govern itself successfully by the parliamentary system. The consequent misgovernment had brought Spain to the verge of ruin by 1921, when the Riffs destroyed the Spanish-African Army, paved the way for Primo de Rivera's military coup and the establishment of his seven-year able dictatorship, filled Spain with a deep-seated resentment towards the crown that finally caused it to fall peaceably in April, 1931, and brought about the establishment of the Second Republic.

Agrarian reforms, free education of the masses, elimination of church schools, separation of church and state

[1] Compendio de Historia de Espana, by Pedro Aguado Bleye, Vol. II, p. 159, par. 22.

[2] "*Rinconete y Cortadillo*," by Cervantes, *edicion critica por Francisco Rodriguez Marin*, 2d edition, Madrid, 1922, p. 9.

[3] Idem, p. 34.

were the great controversial issues that the new government attempted to solve to the satisfaction of the nation. But the republican administration quickly was faced with the same difficulty that had contributed so heavily to the failure of parliamentary government under the monarchy. Established by a coalition of Syndicalists, Communists, Socialists, and several grades of Republicans, mutually hostile and further subdivided into smaller antagonistic groups, it lacked a cohesive majority in Congress. Strikes and disorders spread. Essential enabling acts needed to make effective provisions of the new constitution failed to pass. Legislative and competent administrative action were lacking at every hand because the cabinet was unable to act positively in any direction without either first satisfying all groups or alienating one or more of the minorities upon whose support it was dependent, and thus forcing the resignation of the cabinet. Any succeeding cabinet would immediately be faced with a like issue and a like result.

The first Congress succeeded in disbanding the Company of Jesus, suppressing the Church schools, separating Church and State, outlining a progressive agrarian policy. But nothing was done to solve the problem of public schools for the children already lacking accommodations, not to speak of the thousands more thrown into the government's lap by closing the Church schools. Peasants grew impatient at the failure of the government to effect agrarian reforms in accordance with the new laws. Workmen struck for higher pay and shorter hours, while throughout the country disorders occurred of the type customarily associated with the efforts of militant minority groups to break down the resistance of society to enforced fundamental changes in the social and economic structure.

Twice during his term of office the President can dissolve Congress to take a disputed issue before the people. So as dissatisfaction mounted, the President finally considered it necessary to exercise his first constitutional right to dissolve Congress and call a general election. Despite the known existence of a tightly organized opposition, the radical coalition that had won the first elections failed to present a united front in the second electoral battle for supremacy. As a consequence, conservative elements under the leadership of Gil Robles were so successful that, with the support of the mildly liberal Radical Republican party, they were able to form a conservative cabinet and named Lerroux Prime Minister.

Reactionary tendencies of the new administration caused ousted radical leaders to foment a revolution which was quickly suppressed except in Asturias, where it was necessary to send Moslem regulars from North Africa and the so-called Foreign Legion before peace was finally established. Dissatisfaction with the methods adopted by the government in suppressing the revolution, particularly the desecration of Asturias by Mohammedans, where neither Visigoth nor Moor at the height of their power had been able to penetrate, according to the press was largely the cause of the hostility that developed to the conservative regime. But, whatever the cause, when President Zamora exercised his second and final right to call a general election, a radical coalition was swept into office and took over the government February 6, 1936. But the Gil Robles conservatives remained the largest single cohesive element in Congress.

An outbreak of disorders more serious and more widespread than any heretofore, apparently fomented by radical minorities that desired to grab the power, immediately followed. Early last year army leaders issued a warning that unless order were maintained they would seize the government. The administration canvassed the military establishment in search of sufficient competent leaders of assured loyalty to the government to meet its needs. Failing to find them, it adopted a policy of what the army jokingly termed "turismo;" that is, of keeping suspected officers on the move or in isolated posts, hoping thereby to prevent the organization of a successful coup.

On June 16, Gil Robles, from the floor of Congress, inveighed against the failure of the government to maintain law and order, and read a long list of outrages against person and property, both sacred and profane, perpetrated during the preceding six months. He demanded action. One month later Calvo Sotelo, brilliant conservatist leader and member of Congress, was taken from his home by men dressed as government police. A few hours later his dead body was dumped at the East Cemetery from a police car. Conservative Spain seethed with indignation, charged the government with murder. The administration denied everything, claimed the slaying to be a conservative plot to discredit the government.

In the meantime, General Sanjurjo, competent pacifier of Morocco, and his able subordinates in that campaign, Francisco Franco and Manuel Goded, worked out the following plan: Franco was to invade southern Spain from Morocco with the Foreign Legion and Moslem regulars. Goded was to invade Catalonia from the Balearic Islands. Together, they were to seize Madrid and establish a military dictatorship which would dissolve the workers' unions and annihilate Marxist political theories. The date set was July 20, 1936.

Successful execution of the plan was hampered by Sanjurjo being in exile in Portugal, Franco, stationed in the Canary Islands, and Goded in the Balearic Islands. As a consequence, the plot was discovered, its leaders forced to break it prematurely July 17.

With the background of the conflict so laid, and before proceeding to an exposition of the main phases of the subsequent military operations, it now becomes necessary to discuss briefly the contending forces and the terrain over which they are operating.

The main body of the Spanish army consists of conscripts performing one to two years' compulsory military service. The only regulars are normally stationed in Spanish Morocco. These consist of Regulars, which are largely native Moroccans enlisted in the service of Spain; the Foreign Legion, better known as the Tercio,[4] in which only Spaniards are allowed to enlist in peace time; and battalions of Moroccan regulars placed at the disposition of the Spanish government by the Sultan. These forces in time of need are augmented by levies raised by tribal chieftains and organized into units called "harca."

In addition to the army are three military national police units. Best known is the Guardia Civil, originally organized to keep the rural peace. It is armed with the rifle, depends upon fire power to suppress disorders. Next are the Carabineros, who are customs and immigration police on the land and sea frontiers. They are armed with carbines. The third unit is the Guardia de Asalto, organized by the Second Republic to keep the urban peace. It is armed with the pistol and a limber club about eighteen inches long, depends primarily upon

[4]In the 16th c. the *tercio* was the smallest unit composed of all arms. The term no longer has that significance. In addition to the Foreign Legion, the name is also used in the Guardia Civil.

shock action for results. The total strength of all military units, based on figures appearing in the 1932 Military Annual, at the outbreak of the revolution was about 13,000 officers and 220,000 enlisted men. Of these, there were 41,774, including 9,080 native troops, in the army in Africa and, in addition, 12,713 Moroccan regulars. The *Tercio* was organized into two infantry regiments of four battalions each, a battalion of service troops, and a squadron of lancers, which would give it a strength of about 5,000.

What percentage of the army remained loyal seems to be anyone's guess, but apparently the entire African force joined the revolt; also a majority of the troops stationed in Spain, including all the outstanding officers except General Riquelme, who initially directed the defense of Madrid against the insurgents. He has since been relieved by General Jose Miaja Menant who, at present writing, commands the troops defending the capital.

Franco seems to have brought some 20,000 troops with him to assault Madrid, while Mola, in the Guadarrama, may have from 10,000 to 15,000 more. Estimates of correspondents vary, but they hover around these figures. The loyal Militia defending the capital is probably at least double the insurgent strength. Relative strengths in other parts of Spain would be pure guess work, but it is safe to say that the loyal forces considerably outnumber the insurgents while the morale and efficiency of the latter has been to date immeasureably greater than that of the loyal forces. As the war lengthens, the efficiency of the government forces should rapidly increase. The continued effectiveness of the insurgents will depend upon how well the Moslem troops stand up under the grind of position warfare.

Now for a brief discussion of the terrain over which these forces are operating.

Spain is composed from Atlantic to Mediterranean along the shore of the Bay of Biscay and the French frontier, of the ancient kingdoms of Galicia, Asturias, Castile, Navarre, Aragon, and the counties of Catalonia, together with Leon, located south of Galicia and Asturias between Castile and Portugal. These kingdoms grew out of the reconquest. Their names are currently applied to the same general regions. As Spain is now divided into provinces, corresponding to the French departments, the names of the kingdoms have no political significance except as they may have been given to provinces of much less territorial extent. The present government, however, by means of regional statutes, has endeavored to restore to such of these areas as desire it their old pre-Hapsburg local self-government. This already has been accomplished in the Basque Provinces, formerly Navarre, and the provinces of Catalonia.

South of the central system of mountains were the independent petty Moslem kingdoms, all of which were eventually conquered by Castile. These varied from time to time, but for the most part consisted of Toledo, Valencia, Murcia, Denia, Granada, Badajoz, and Seville. To the Moslems, all of Spain under their control was Andalusia. Today it is an indefinite region in southern Spain corresponding more or less to the kingdom of Seville.

The nucleus of the peninsula is the great Central Meseta bounded on the north by the Cantabrian Mountains, on the east by the Iberian System, and on the south by the Sierra Morena. The Central System, composed of the Gredos and Guadarrama Mountains, divides the Central Meseta into a northern and southern submeseta. The mean altitude of the northern meseta is 2,400 feet, of the southern meseta 2,100 feet. Crossing the southern meseta and separating the valleys of the Tajo and Guadiana Rivers, are the low-lying Mountains of Toledo, the least important system on the peninsula.

Guarding the Central Meseta on the north is the Ebro River, precipitously walled in on the north by the Pyrennes Mountains and on the south by the Iberian System. The southern moat is formed by the Guadalquivir River, which flows through a relatively broad valley between the Sierra Morena and the Penibetico System. Although the valley is easy of access from the sea, ascent therefrom to the meseta is extremely difficult. Yet it offers the only access thereto from the south except from the Mediterranean side in the vicinity of Albacete. The meseta is most accessible from the west. There are no serious natural obstacles, for instance, to impede an army advancing on Madrid from the vicinity of Badajoz, while an army advancing from the north must force the passes of the Central System, and from the south those of the Sierra Morena. An advance from the western seaboard is, of course, blocked by Portugal, which covers the Atlantic Coast from Galicia to the mouth of the Guadiana River.

So much for background, contending forces, and geography. The following account of the military operations to date of writing is a brief running summary based on daily newspaper reports and subject to the errors inherent in summation from such sources.

July 17, prodded into action by the discovery of the plot, the army in Morocco mutinied, quickly seized the entire Protectorate. General Francisco Franco tipped over governmental authority in the distant Canary Islands, then flew to Morocco to take charge and invade Spain as per schedule. The following day's uprisings were reported in the newspapers to have occurred at Ferrol, San Sebastian, Pamplona, Valladolid, Burgos, Saragossa, Valencia, Cartagena, Cadiz, and Seville. Sometime during the next few days the railroad town of Albacete was captured, blocking rail communication between the capital and the sea. July 19 Franco landed at Cadiz with units of the Tercio. But Sanjurjo, preparing to fly from his exile in Portugal, was killed when the plane cracked up on the take-off.

Leaders in those communities where the uprising failed were quickly arrested, clapped into jail. July 18 all high ranking army officers in Madrid were reported to have called at the War Office and pledged their loyalty to the government. But two days later an outbreak occurred there at dawn. By midday it had been crushed by an alert government militia, the revolting officers jailed. This day Franco found it necessary to return to Morocco. He left General Quepo de Llano in command in the south, who immediately moved east with units of the Moroccan forces Franco had brought over, seized San Roque and neighboring La Linea, marched on Malaga.

By 21 July the situation had begun to clarify itself. Uprisings in eastern Spain had been quickly suppressed. The insurgents were dominant in the north except for Asturias and a coastal strip including the cities of Bilbao, San Sebastian, Santander, and the railroad town of Irun on the French frontier, which government militia had succeeded in holding or in recovering from the revolting army. The insurgents also held the west and most of Andalusia, including Cordoba and Granada, but the government was able to occupy Linares.

General Mola, in command in the north, was operating against Irun and San Sebastian, and moving on Madrid to the southward. Loyal Catalonian forces were attack-

ing Huesca and Saragossa in Aragon. They were likewise en route to the aid of the defenders of Madrid. Goded's expedition to seize Catalonia had failed. Both that brilliant officer and the commanding officer of troops in Barcelona were captured, tried by court martial for treason, convicted, and, on August 27, executed. So of the three original leaders only the physically diminutive Franco is left.

Loyal columns were reported to be operating against insurgent-held Cordoba, former capital of the brillian Caliphate, where, once more, Moslem troops were holding services in the great mosque. Later movements of insurgent troops established that Merida and Badajoz had remained in loyal hands, indicating that outside of Navarre and perhaps portions of Old Castile the insurgents could legitimately claim only those localities of which their troops were in actual possession.

Insurgent headquarters during these initial actions were located at Pamplona, ancient capital of the kingdom of Navarre, where Ignacio de Loyala received the wound which led to the vision that caused him to found the Company of Jesus, commonly referred to as the Jesuits.

By this time it had become clear that the major units of the Spanish fleet had remained loyal to the government, but only because their crews had seized them from their officers. The consequent inefficient handling of the vessels and the withdrawal of some of them later to the insurgent cause, enabled Franco to pass sufficient Moroccans and legionaries across the straits to assume the offensive in the south.

Mola, with everything in the north under his control except the Cantabrian coast, began to move actively against Madrid. But his efforts to force the barrier of the Guadarrama were blocked by loyal militia at the passes of Navecerrada and Guadarrama, through both of which pass excellent hard-surface highways, a railroad through the latter. The outstanding news of this period was the capture of the rail center of Albacete by the government July 25. This gave Madrid a rail outlet to the sea and permitted the free shipment of supplies from the gardens and seaports of the Levante to the beleagured city.

The loss of Albacete by the insurgents may have influenced Mola in his decision to gain a seaport in the north, shut northern loyalists off from French support by seizing the railroad town of Irun on the French frontier and the nearby seacoast resort town of San Sebastian, where he began to press his attacks with great determination. Meanwhile, army cadets, beleaguered in the Alcazar at Toledo, and an insurgent force at Oviedo were putting up epic struggles against vastly superior forces of untrained militiamen.

On August 10 the government reported 800 insurgents slain at Navalperal in an attempted advance on Madrid, indicating that Mola was extending to the westward in an effort to turn the loyalists out of their positions in the passes, take Madrid from the northwest.

By this time, Franco was ready to move north in an effort to make contact with Mola's forces in the west, join him in a simultaneous move on Madrid. By moving on Badajoz from the lower Guadalquivir, three objects were attained: The difficulties and dangers of an attempt to force the passes of the Sierra Morena were avoided. Contact with dictator-ruled friendly Portugal was gained. A road to Madrid free of natural obstacles of a serious nature opened.

August 9 Franco opened his Badajoz campaign with a feint towards Linares, later sent a second column in this direction. These inferior forces, while avoiding decisive contacts, succeeded in preventing much needed reenforcements from reaching Badajoz and Merida. The drive on Badajoz was begun August 11 and town captured about August 15, although heavy fighting continued in the vicinity for some days thereafter.

While the fighting about Badajoz was in progress, insurgent headquarters had been moved from Pamplona to Burgos and about this time was at Valladolid.

During the attacks on Badajoz and Merida, loyalists, vainly trying to create a diversion, pressed their attack on Cordoba from the east, and pushed a second column across the Sierra Morena from the north. But to this date Cordoba remains in insurgent hands.

SITUATION 23 AUGUST

Franco was enroute to the Toledo area, where the heroic defenders of the Alcazar were still holding out, August 23. His route lay via Caceres, Trujillo, and Talavera de la Reina, the latter once a center of lovely pottery manufacture. Talavera fell to Franco September 4. On this day, too, insurgent forces marched into the blazing ruins of Irun, occupied San Sebastian with but little resistance a few days later, then began operations against Bilbao, which to date has resisted their efforts.

Following the loss of Talavera, government forces prepared to make of the little village of Maqueda a second Verdun for the terrain there forms an exceptionally strong position across the route of advance to Madrid and Toledo. But despite proud hopes, Maqueda fell September 17. Said a New York *Times* correspondent in discussing its capture, "Further details of the victory show that Franco smashed through 30,000 Madridists largely by means of airplanes that flew at a height of ninety feet and used machine guns on the loyal columns and positions after they had fought the rebel infantry to a standstill before the planes entered the picture." A correspondent had reported the discovery at Caceres five days previously of a large air base filled with foreign aviators who, he said, were winning the war for the insurgents.

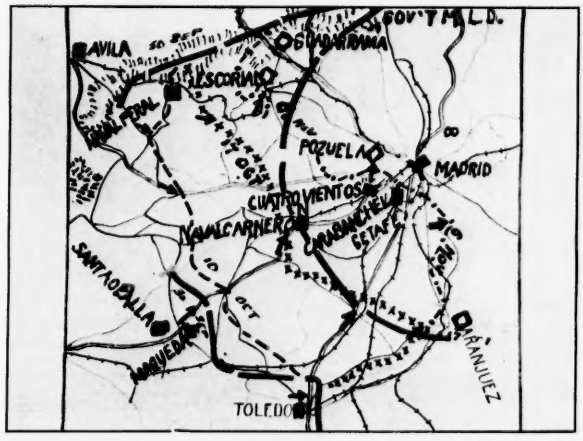
Superior organization and training of Franco's forces combined with the failure to centralize command of the Madrid defenses, gradually forced the government troops back to the west to the edge of Madrid. The old part of the capital, the San Antonio of Madrid, out of which on the second of May, 1808, came the spontaneous uprising that eventually drove the French from Spain and contributed much towards Napoleon's downfall, is built on a hill rising steeply above the little Manzanares River. Crossing the Manzanares to the southward is the Toledo bridge. Outside the city, on high ground to the westward of the Toledo road, is the hermitage of San Isidro Labrador, patron saint of Madrid. On the flats below it, along the river, a *verbena*, dear to the hearts of the typical Madrilenian, is held annually. To the westward, and just below the palace, is the Segovia bridge. Efforts of the rebels to seize both these bridges, dominated by the heights of the old town were frustrated. West of the palace, and across the river below it, is the former royal park called El Campo del Moro. Beyond that stretches the great royal hunting preserve of La Casa del Campo. Both these localities have figured frequently in the news since the government troops withdrew to Madrid.

North of the city, the ground rises gradually from the banks of the river. Here, in the Parque de Moncloa, near the exquisite little French palace of the Spanish-born Empress Eugenie, is the new campus of the Uni-

versity of Madrid.[5] In this locality the insurgents managed to force a crossing of the stream, occupied the university buildings, and attempted to work south into the city. Government counter-attacks recovered a portion of the University City, as the new campus is called. Despite frequent bombings of the capital, which has caused much destruction and loss of innocent life, the insurgents so far have failed materially to improve their positions. Credit for the stiffening of the defense is given by the press to a centralized command, achieved under the pressure of imminent disaster, and the presence of a foreign brigade commanded by an Austrian-born, naturalized Canadian radical. The government has moved from Madrid to Valencia and non-combatants are being evacuated as rapidly as transportation can be made available and the people persuaded to leave.

GENERAL SITUATION AS OF 1 JANUARY, 1937

This map shows the general situation as of 1 January, 1937. The greatest activity continues in the Madrid area where the insurgents, after failure to force their way into Madrid, are now concentrating their efforts on flanking the loyalists out of their Guadarrama positions by moving down the Avila—Madrid railroad against the Escorial.



Success in this effort will provide them with a road net for further advance against Guadarrama and the Navacerrada pass highway a few miles to the eastward. In the north, Government activities against Oviedo and insurgent activities against San Sebastian and Bilbao continue, but without result. Bilbao has been of interest in connection with the seizure of the German steamer Palos, an incident which for a time threatened serious consequences. Sporadic activity has been reported from the Cordoba area while Huesca and Saragossa have failed to make the news for some time.

SITUATION BEFORE MADRID JANUARY 1, 1937

This map shows the successive positions rapidly seized by the insurgents following the collapse of the government defenses in the Santa Olalla-Maqueda area. The semicircle to the westward of Madrid marks the government's hastily constructed main line of defense, which was readily pierced by the insurgents. The arrows show the main direction of the insurgent drives: Along the Avila-Madrid railroad, the Avila-Madrid highway, the Talavera-Maqueda-Madrid highway, and the Toledo-Madrid highway. The railroad to the sea was cut just north of Aranjuez October 23, necessitating a truck haul of some sixty miles from a rail head south of Aranjuez. It is interesting to note than Franco has been careful to cover his right flank by remaining north of the deep gorge of the Tajo. This has worked to the advantage of the government by permitting the Aranjuez-Albacete-Alicante railroad to remain open but has assisted Franco materially in covering his small force and long lines of communication. Prior to the revolution, military barracks were located at Carabanchel and Cuatro Vientos, a military airfield at Getafe. These are all now in possession of the insurgent forces.

So much for the fighting. What is likely to happen is anyone's guess. But with the world today, through rapid communications and an ever alert and fecund press, drawn far more closely together than were the original thirteen states of our Union in 1783, it has become everyone's concern.

Danger of the revolution involving the world in a general war seemed to have subsided in September when side-line support of their favorites by European countries became less raucous. It is probably the bogey of Communism at the door, as well as a desire to avoid war, that is responsible for the policy of strict neutrality on the part of the two remaining European apostles of liberty as codified in our Bill of Rights; a policy against which the Spanish government bitterly complains as favoring the insurgents. But Russia's subsequent open rallying to the aid of the government, Franco's cry for German aid, and the influx of foreign volunteers to fight for their favorite side has caused new tension, again filled the press with prophecy of War.

Domestic results following the victory of either side are interesting to ponder. If the insurgents win, order will doubtless be promptly established, person and property become secure. But there will still be misery in Spain, still a great submerged population blaming its ills, rightly or wrongly, on a capitalistically organized society and allied institutions, awaiting only the opportunity and the leader for another try at some new economic and social theory upon which their hopes will be

[5]The official name is Central University of Spain.

pinned for relief from their distress, *remedio para sus penas.*

Should the government win, it seemed for a time that another bloody conflict between Syndicalist, Communist, and Socialist for leadership would result; for, according to press reports, even in moments of extreme peril they have forgotten the common enemy to fly at each other's throats. But it is possible that their differences may be fused in the crucible of the present conflict into a common doctrine, while, certainly, if the government develops the strength to defeat Franco, it should be able to keep order.

The liberal republican followers of President Azaña, idealistic former president Zamora, and the capable practical politician Maura seem to have been ground out between the contending forces of radicalism of the left and right. Undoubtedly a government victory will mean the establishment of Communism in Spain. But that it would long delay in evolving into a sound social, political, and economic order suited to the Iberian temperament and tradition, just as occurred in France after the Revolution, cannot be doubted. The Spanish peasant and laborer are naturally quick-witted, while the country is so small that the forces of evolution would work rapidly towards acceptable stabilization once the country became placed in a social and economic state of flux.

Morocco becomes an interesting problem whoever wins. If Franco's African forces are destroyed on the peninsula, the Riff may rise in Africa and the government, exhausted by the present conflict, prove powerless to intervene, leave the Protectorate to be quarrelled over by land-hungry aliens. But it is doubtful if either France or England would peacefully permit a powerful potential enemy to occupy the southern side of the western entrance to the Mediterranean.

Should Franco win, ascendant in Africa, the Canaries, the Balearics, and the Peninsula, no territorial difficulties should arise, although it is impossible that he has offered part or all of the non-peninsular possessions to Germany and Italy in return for their support. This, Italian representatives have denied; but a recently published item under a Rome date line said that an air line between Italy and Mallorca, in the Balearic Isalnds, "at present a Spanish possession," had been established. The phrase "at present a Spanish possession" connotes possibilities. But with those islands lying close aboard the lines of communication between France and the great reservoirs of man power she has developed in North Africa, that country can hardly afford to let the Balearics go to Italy by gift or seizure without a struggle.

Both Azaña and Franco have declared for a Liberal Constitutional Government, the former against radicalism of the left, the latter against radicalism of the right. Here it may be safely predicted that neither of them, if victorious, will have the slightest success in preventing their most radical associates from gaining power; that be it the corporate state of Fascism or the proletariat state of Communism, Spain is headed directly for rule by dictatorship. But to one reared in a nation in which the rule of the people, as exercised through the orderly expression of the will of the majority at the polls, is supreme; in which even the fundamental charter of government contains provisions for its own modification, alteration, or destruction through the orderly and legally expressed will of a sufficient majority, it can only be cause for regret that in one more country popular rule has failed, that once again a system of government duly and legally established by popular vote has been challenged by militant minorities and is face to face with destruction.

THE SEA SCHOOL, MARINE BARRACKS, NORFOLK NAVY YARD, PORTSMOUTH, VA.

Major Prentice S. Geer, U.S.M.C.

■ The Sea School! Just what mental pictures and thoughts does the title "sea" conjure? By the very name, one can imagine clear skies and the broad rolling ocean with ships steaming majestically on its surface. There is a tramp steamer riding high with her propeller half way out of the water and her sides splotched with red lead. Over yonder is a smart, well kept commercial ship with a bone in her teeth. Even with the horizon is a tanker, her decks practically awash. Only her bridge and high poop deck are visible. One imagines tropical islands with white surf breaking on coral reefs and foreign ports with the lure and fascination of strange people, unusual sights and peculiar customs. We, in the service, see pictures of smart, well kept battleships, carriers and cruisers. Pictures flash through our mind of gun compartments, turrets and fire control tops. There is a continuous moving picture of white decks, glistening brass, passageways, hatches and the ever present, alert and fast-moving crew of sailors and marines, each intent on going somewhere and doing something. Every one of them has a particular duty specifically laid down and so co-ordinated as to make an efficient, powerful unit whose strength can be exerted in an unbelievably short length of time. These pictures and others too innumerable to mention are connected with the sea.

We now move on to the school part of it. Webster's Dictionary states that a school is a place where instruction is given; an examination hall; to train or instruct. By this definition we can deduce that a sea school is a place of instruction for things which pertain to the sea and as we of the service picture, to battleships, carriers, cruisers, gun compartments, decks, fire control tops, passageways, hatches, etc. Also we may deduce that it is a place where examinations are held. Such is the goal for which the Sea School at the Marine Barracks, Norfolk Navy Yard, Portsmouth, Va., is striving. The School endeavors not only to instruct and examine but also to indoctrinate its students in what the sea, with its ships and guns, means to the Marine Corps.

In this brief paper, the past will not be dealt with. It has had its day of hard work and pride in duty well done. What we are concerned with, is today and tomorrow. Things and conditions of today are sometimes diffi-

cult to change. We can, however, profit by what today teaches us and lay plans for the future in such a way that these plans will materialize. The mental processes of an officer who believes, thinks and talks that his particular duty is the most important duty in the service, are understood. The officer, however, should be made to understand and believe that the various duties and activities of the service all dovetail to make a common whole, each activity being equally important. The chain can easily be made smaller by removing a link and still be strong. The Sea School at Portsmouth, Va., is not by any means the most important activity of the Corps. It does, however, strive to play its part, with the means at its disposal, in training and indoctrinating its students with the thought and spirit of THE SHIP. The School is governed by three means at its disposal. First, the material means, second, the personnel means and third, the schedule of instruction.

Let us consider first the material means at our disposal. The School occupies a barracks which will accommodate comfortably four hundred men. Located within the barracks is a class room where lectures are held and examinations given. Hanging on the walls of the class room are blue prints of battleships, cruisers, insignia of ranks and ratings of commissioned, warrant and petty officers of the Navy and Marine Corps. There are also in colors, the alphabet flags of the Navy with the various designations assigned to them. A large blackboard is available. There is in use a small projector machine with films furnished by the Bureau of Navigation to illustrate various activities of the Navy as well as films which show types of battleships, and cruisers. Each student is furnished a Blue Jackets' Manual, Boat Book, and Ship and Gunnery Book. To the west of and very close to the barracks is the Gun Shed which houses one (1) 5" 51 gun, one (1) 5" 25 anti-aircraft gun, two loading machines (5" 51 and 5" 25) and one (1) Browning machine gun, cal. .50. There is also a 3" naval gun and a 6-pounder, both of obsolete type. Bore sighting telescopes are furnished for the 5" 51 and 5" 25 gun. In the Gun Shed and apart from the mentioned guns is a space furnished with billet hooks where hammocks are slung, lashed and stowed. For instruction purposes, eight (8) B.A.R.'s and one (1) Browning machine gun, cal. .30, are used in the School. Semaphore flags are available for each student. In the Navy Yard and slung on davits along the sea-wall, is a cutter used to teach the students boat etiquette and how to handle an oar. So much for the present material means.

The personnel means is an authorized complement of one (1) Captain, one (1) 1st or 2d Lieutenant, one (1) 1st Sergeant, one (1) Gunnery Sergeant, two (2) Sergeants, seven (7) Corporals, one (1) Trumpeter, three (3) Privates First Class or Privates, making a total of two (2) commissioned officers and fifteen (15) enlisted. That duty at sea should be the first qualification of the entire personnel, goes without saying. Having qualified in this respect, the enlisted personnel is then selected because of their intelligence, military appearance, knowledege and service, neatness of dress, ability to instruct and handle recruits in a firm and understanding manner. Enlisted men coming to the Sea School are put into units called sections consisting usually of three squads. Many times applicants come to the School in such small numbers that it is necessary to form sections of only two squads. Each section has a sergeant and corporal to take it through the School and who are responsible for the instruction in the classroom, on the field and in the Gun Shed.

Last but not least is the Schedule of Instruction or the Routine. In this, the material means at the disposal of the Sea School is exploited by the personnel means in a determined effort to utilize the material means to its utmost capacity in the length of time allotted for the instruction. This Schedule is changed from time to time when it is seen that a change will increase the student's knowledge and cause him to be more at home when he gets aboard ship and to fit more quickly into the routine life of his detachment. The present Schedule is injected into this article so that the reader may more readily understand and obtain a clearer picture of just what the Sea School is striving for.

ROUTINE OF INSTRUCTION FOR SEA SCHOOL DETACHMENT

Instructions will ordinarily be carried out five days a week, Mondays to Fridays, inclusive, Saturdays will be given over to Commanding Officer's Inspection, and Saturday afternoons and Sundays will be free to all men attached to the School, both instructors and those undergoing instruction except that men undergoing instruction will not be granted liberty for the first two weeks they are in the School. Whenever holidays occur on any of the five days work will be carried over to the day following and the class will, therefore, require one day longer to complete the course. Troop inspection followed by locker inspection will be held five days of the week at 0830. Recall at 1600 on all days of instruction. Troops arriving on any day of the week previously to Thursday will take their rifles apart on the evening of the day of their arrival, and will assemble them in time to be ready for Saturday's inspection. Troops arriving on Thursday, Friday or Saturday, will take their rifles apart after Saturday's inspection.

Thursday (Day of Arrival):

Assignment to quarters, draw bedding, lay out equipment and make out requisition slips, make out requisitions for canteen supplies, draw extra property needed for instruction, arrange lockers.

1300 Introductory talk on routine and work at the Sea School, post orders, post routine, Commanding Officer of the post and Sea School and other officers, liberty and pitfalls to avoid while on liberty. Clean and press clothing.

Friday:

Draw books from company office and necessary equipment from armory and quartermaster.
Draw canteen supplies.
Demonstration by instructors on how to clean and polish leather, shine bright work, press clothing.

1300 Talk by police sergeant about upkeep and cleaning of quarters, practical demonstration of broom, swab and brightwork polish.
Assignment to cleaning stations. Clean and polish leather equipment and brightwork, press clothing, arrange locker.

First Day of Instruction:

0830 Troop, followed by inspection of quarters, Drill, school of the soldier, manual of arms and TR 420-50, Sec. 1.
1000 Rifle inspection, care of, safety precautions.
1100 Lecture, rifle fire and its effect, battle sight, rear sight at 300 yards (TR 145-5, Sec. 4.).
1300 Organization and general aspect of the Navy and Marine Corps. (BJM 269-275).
1500 General police of personal clothing and equipment. (Particular attention of leather and brass).
1600 Recall.

Second Day:

0830 Troop, followed by inspection of quarters, Drill, school of the soldier, manual of arms and TR 420-50, Sec. 1.
1000 Pistol, inspection, care of, safety precautions. Lecture, proper handling of pistol when armed with same while on duty.

1300 Organization and duties of ship's crew (BJM 316-338).
1500 General police of personal clothing and equipment.
1600 Recall.

Third Day:

0830 Troop, followed by inspection of quarters, Drill, physical drill under arms, BB Chapter 9, followed by close order drill (TR 420-50, Sec. 1).
1000 Interior guard duty (TR 135-5, Sec. 3, Par. 21, Sec. 5).
1100 Signalling, semaphore alphabet (Signal Book 7-10).
1300 Ordnance, type of naval guns, elevating and training gear, breech mechanism, recoil mechanism, sights. (BJM 685-708, A&GD 73-78, 92-94).
1600 Recall.

Fourth Day:

0830 Troop, followed by inspection of quarters.
Draw and mark clothing.
Draw white belts and other equipment from Quartermaster.

Fifth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill (TR 420-50, Sec. 1&2).
1000 Interior guard duty (TR 135-5, Sec. 3, Par. 21, Sec. 3).
1100 Signalling, semaphore alphabet (Signal Book 7-10).
1300 Field Day.

Sixth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, TR 420-50, Sec. 1&2 and physical drill under arms, and extended order (TR 420-85, Sec. 2).
1000 Ordnance, type of naval guns, elevating and training gear, breech mechanism, recoil mechanism, sights, 5" 25 A.A.
1100 Orderly instruction, carrying messages (BJM 33-36, 259-275, 541-546, 550, fog whistle and bell 552-562).
1300 Bugle calls aboard ship, bugler will sound them and explain the calls.
1530 General police of personal clothing and equipment.
1600 Recall.

Seventh Day:

0830 Troop, followed by inspection of quarters.
0900 Drill (TR 420-50, Sec. 1, 2&5), followed by extended order drill.
1000 Browning, .50-Cal. Machine Gun.
1100 Orderly instruction, carrying messages (BJM 33-36, 259-275, 541-546, 550, fog whistle and bell, 552-562).
1300 Ordnance, loading drill, 5" 25 A.A.
1400 Naval customs and salutes, rank and insignia. (BJM 25-56, 259-276).
1500 General police of personal clothing and equipment.
1600 Recall.

Eighth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, close order, followed by bayonet drill.
1000 Sea terms and expressions (BJM 286-295, 577-584).
1100 Orderly instruction, carrying messages (BJM 33-36, 259-275, 541-546, 550, fog whistle and bell 552-562).
1300 Ordnance, review previous lessons, firing mechanism, 5" 25 A.A.
1400 Hammocks, lashing, stowing, airing, etc. (BJM 23-25, 322-325, 278).
1500 General police of personal clothing and equipment.
1600 Recall.

Ninth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, close order, and extended order (TR 420-85, Sec. 2, 4, & 5; TR 145-5-30 a, b, c, 20 a-f).
1000 Ordnance, loading drill, 5" 25 A.A.
1100 Boat etiquette, commands under oars (BJM 129-156).
1300 Movies of 5-inch gun drill.
1500 General police of personal clothing and equipment.
1600 Recall.

Tenth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, close order and extended order (TR 420-85, Sec. 1-6, TR 145-5, 30 a, b, c, 20 a-f).
1000 Ordnance, review previous lessons, bore sighting, preparing battery for action, casualties, safety precaution, 5" 25 A.A.

Eleventh Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, platoon and company, followed by extended order drill.
1000 BAR, general data, loading and unloading, loading and care of magazine, change lever, safety precautions, cleaning of bore and gas cylinder, correct setting of gas cylinder, purpose and use of three gas ports.
1100 Flags, BB 5018-5019, 5020-5021, 5042, Art. 2, a, b, c, and Art. 11, 15 a, d).
1300 Tour of USS————, parts of ship, true and relative, bearings, morning quarters, general drill (Fire, collision, abandon ship, rescue, general quarters) with bugle calls, ship hailing boat and vice versa.
1530 General police of personal clothing and equipment.
1600 Recall.

Twelfth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, platoon and company, followed by extended order.
1000 BAR, demonstration of stripping and assembling, use of clearance fluid, care of magazine, pupils to change extractor and firing pin without dismounting the gun.
1100 Flags (BB 5044, 1-2, 4045, 5047, 5049, 5052, 5054, 5083).
1300 Ordnance, sight setting and loading drill (S&GD 92-94, 123-129).
1400 Signalling, semaphore alphabet, followed by sending and receiving of code letters (Signal Book 7-10).
1500 General police call of personal clothing and equipment.
1600 Recall.

Thirteenth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, platoon and company, followed by bayonet drill, BMG, mounting and dismounting of tripod and gun, laying of gun, loading and unloading, loading of belt. (Also by hand), care of belts and ammunition, firing the gun, changing targets quickly, duties of Nos. 1 and 2, changing bolt.
1300 Ordnance, sight setting and loading drills (S&GD 92-94, 123-129).
1400 Flags (BB 6002, 2-3; 6005, 3; 6013, 2; 6016, 3-4; 6017, 2; 6026, 3; 6028, 2; 6029, 1; 6030, 2).
1500 General police of personal clothing and equipment.
1600 Recall.

Fourteenth Day:

0830 Troop, followed by inspection of quarters.
0900 Lecture, telephone talker systems aboard ships, the telephone talker circuits handled by marines, a brief mention of fire-control and how handled.
1000 BMG, review previous lessons, changing of bolts, two stoppages (failure to feed and failure to fire). Preparing gun for action.
1300 Ordnance, drill, pointer group, casualties, loading drill, competition between gun crews (S&GD 73-87, 123-129).
1400 Signalling, semaphore alphabet, sending and receiving messages and code letters (Signal Book 7-15).
1500 General police of personal clothing and equipment.
1600 Recall.

Fifteenth Day:

0830 Troop, followed by inspection of quarters.
0900 Lecture, combat patrols.
1000 Extended order, combat patrols, field problems in open country.
1100 Lecture, hand and rifle grenades.

Sixteenth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, platoon and company, competitive drill between squads and platoons.
1000 Ordnance, review of previous lessons, followed by general quarters, short range battle practice with firing of subcalibre guns, loading drill.
1300 Tour of USS ————, parts of ship, duties of marines on board from "all hands" to taps, guard of the day, full guard and band, life buoy sentries, gang-way, orderlies. (BJM Chapter 25 and pages 481-482, S&GD 250-261).
1530 General police of personal clothing and equipment.
1600 Recall.

Seventeenth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, extended order, field problems, combat patrol, in mountainous territory traversed by a narrow trail, ambushes, security of the camp, security on the watch, on the march. Camp routine (sanitation, cleaning of weapons, food and sleeping arrangements, conforming to the defense of the camp). Equipment: rifle, cartridge belt, bayonet, combat pack.
1300 BAR, review previous lessons, firing position, rate of fire in action, three stoppages (failure to feed, failure to fire, insufficient gas).
1400 Movies: Chemical warfare, water tight integrity.
1600 Recall.

Eighteenth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, close order, platoon and company.
1000 Sea terms and expressions (BJM 286-295, 577-584).
1100 Orderly instruction, time orderly, captain's orderly, carrying messages (BJM 33-36, 259-275, 541-546, 550, fog whistle and bell 552-562).
1300 Whale boat drill.
1500 General police of personal clothing and equipment.
1600 Recall.

Nineteenth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, close order, platoon and company, followed by extended order drill.
1000 BAR, review.
1300 BMG, review.
1500 General police of personal clothing and equipment.
1600 Recall.

Twentieth Day:

0830 Troop, followed by inspection of quarters.
0900 Drill, close order, platoon and company.
1000 Ordnance, review.
1300 Field Day.

Twenty-first Day:

0830 Troop, followed by inspection of quarters.
0900 Close order drill.
1000 Bugle calls aboard ship, bugler will sound calls and explain the calls.
1300 Examinations.

Twenty-second Day:

0830 Troop, followed by inspection of quarters.
0900 Close order drill.
1000 Movies: Safety precautions, gasoline driven power boat, painting, resuscitation of apparently drowned.
1500 Examinations.

Twenty-third Day:

0830 Troop, followed by inspection of quarters.
0900 Close order drill.
1000 Examination of bugle calls aboard ship with bugler actually sounding calls.
1300 Examinations.

Twenty-fourth Day:

0830 Troop, followed by inspection of quarters.
0900 Physical drill under arms, followed by close order drill.
0930 Review.
1300 Examinations.

Twenty-fifth Day:

0830 Troop, followed by inspection of quarters.
0900 Physical drill under arms, followed by close order drill.
0930 Complete any examinations not taken.
1300 Field Day.

We can now see what the student of the Sea School has to deal with. The application of the schedule follows very naturally. In the first day of instruction, the young men are told that their days of a recruit are finished. They are told to drop the various and peculiar customs and usages with which they were indoctrinated when in the Recruit Depot. This is necessary as the majority of men come direct from the Recruit Depot. For the benefit of other men, who have more service, it is emphasized that although they may know infantry drill, nevertheless they are urged to put themselves in a receptive frame of mind and absorb, as for the first time, everything the instructors tell them. After this talk, rifles are taken apart, wooden parts are cleaned and rubbed with linseed oil. Many times these parts are of different color. Exchanges are then made amongst the men to effect, so far as is possible, a uniform color of wood. When this has been done to the satisfaction of the instructors, web equipment including leggins, is thoroughly scrubbed and blancoed. All leather goods are stained so as to be of uniform color.

The section is then called before the Commanding Officer of the Sea School. Each man is called by name from his Service Record Book and is questioned as to why he entered the Marine Corps, does he like the service so far, what part or activity of the service appeals to him (duty with the artillery, aviation, machine-guns, chemical, etc.). He is questioned in regard to his family. Are his mother and father alive? Has he any brothers or sisters? Are they married and what do they do? Does he play football, baseball, etc.? Which sport does he like best? The purpose of this is to observe the individual's reaction to questions, to judge his mentality and to obtain a psychology of the young man. After each man has been so questioned, a short talk is given. The subjects touched upon are (1) service evils, cheerfulness and loyalty in carrying out orders, discipline, noncommissioned officers, the necessity of acquiring good habits (both personal and military habits), the ability to take hard work and knocks with a smile and a final last word in wishing them well during their years of service. For the next three weeks, the section follows the schedule rigidly. They are inspected every morning by an officer who questions the men on what they have had in previous days. This is done to find out if they have been attentive in class, if they are absorbing the class work and to keep them mentally alert and active. Their squad rooms are inspected daily also and they are again subjected to questions such as: (1) What guns do Marines man aboard ship? What do you do when boarding a ship? When leaving? What parts of the ship are reserved for officers? What naval ranks correspond with those of the Marine Corps? When and how often do you salute aboard ship? What batteries do the Marines man aboard ship? These and many others are asked twice a day by commissioned officers. The men then become accustomed to being addressed by officers and are able to reply intelligently without becoming confused. It is very interesting to see how when first addressed, some men lose their tongues completely but after a while they are able to look you in the eye and answer your questions intelligently. The military bearing and carriage are emphasized. Too often men are prone to walk in a careless manner with their heads down, shoulders drooped and with a side to side swagger or sway. They are continually being cautioned to carry themselves erect, holding their heads up with the chin drawn in. The useless snapping of triggers of rifles in ranks or while going to and fro from formations is forbidden. During inspections they are cautioned to keep their eyes straight to the front and not allow them to wander. They are taught to draw their feet together and stand erect when they salute. These and many other little details are dwelt upon so that, after four weeks, a great change is noticeable in the deportment and bearing of the individuals. Each student must procure a notebook and pencil. During class-room

work and lectures in the Gun-Shed, the students make their notes. These notes come in handy in refreshing their minds before the final examinations. It may be noted that three hours, including examinations, are spent on bugle calls aboard ship. To the writer's personal embarrassment, it is admitted that, for the first three months aboard ship, his ears were greeted with a medley of calls which were totally strange to him. These calls represented the routine activity of the ship. To the enlisted Marine going aboard, the experience must be the same and undoubtedly more so, as these calls announce certain activities of a life he is ignorant of and in which he plays an active part and is expected to do his share. It was decided, therefore, to familiarize the Marine going aboard ship with these calls so that he could pick up the routine more quickly and merge rapidly into the ship's life. Another subject which is being stressed and will be emphasized more in the future, when better equipment is to be had, is the knowledge of telephone-talker circuits and how to talk over the phones. Good talkers in the control top and setting sights on the guns are extremely necessary. Without them the Group Control Officers and the Battery Control Officer are practically helpless. They need not expect efficiency and accuracy when it comes to gunnery competition. Men going to sea must learn cleanliness and ability to keep their personal belongings shipshape in a small locker. To one who has been to sea, the picture must always be vivid of how on Saturday's inspection, the inspecting officers pry into every dark corner with a flash-light and pass hands over pipes, framework and tops of lockers in search of rags and clothes stowed away hastily and to see if the overhead has been properly cleaned. This same thing is stressed at the Sea School. Door sills, tops of lockers, pictures, ledges in the heads, pipes, cobwebs, etc., are all carefully cleaned on Fridays and gone over again on Saturday mornings so that it will be possible for the inspecting officer to pass his hands anywhere on the over-head and have them come away clean. This is something which will have to be learned aboard ship and it is considered important that men be well indoctrinated with this habit before going aboard. Foot lockers are not allowed. Men must keep all their clothing in steel lockers. These are inspected every morning by a commissioned officer to see if the clothing is kept in a neat and orderly fashion and also to check on the proper marking of them.

The writer has always believed in the delegation of authority to subordinates, whether commissioned or non-commissioned officers. Each has a particular and well designated place and duty in the military organization. The non-commissioned officer because of his close relations and contacts with the men is able to do many things in his peculiar way which a commissioned officer may not do. He must feel that he is responsible and also that confidence and trust are reposed in him. Accepting these factors, the commissioned officer will then have to deal only with supervision, with a word here and there of direction and correction. The instructors in the Sea School are non-commissioned officers. They are allowed to develop leadership, initiative and responsibility. They are encouraged to give suggestions. It is amazing and very satisfying to see how, after they understand they are responsible and trusted, the sections fall in at precisely the exact hour and are marched away in quiet, military fashion to the various classes as called for by the schedule. There is no shouting, no bawling out of loud orders or commands. Everything is quiet, business-like and to the point. It may appear rather strange to the reader that the question of non-commissioned officers has been mentioned and touched upon. Also, it may appear that undue stress has been laid upon the delegation of authority to non-commissioned officers and that too much authority has been given to them. It is believed not. Aboard ship, the Marines lead a separate life from their officers. Actually, so far as the daily routine is concerned, the officers have little or nothing to do with them. It is upon the non-commissioned officer that the burden falls. The setting up and stowing away of mess tables, the cleaning up after mess, the gathering and distributing of laundry, the cleaning of compartments and guns, enforcing the order of "smoking lamp is out" and "smoking lamp is lit," the stowing of hammocks, etc., must all fall upon the various non-commissioned officers. Therefore, it is considered imperative that at a Sea School, the men become thoroughly trained and indoctrinated in receiving and carrying out orders given by non-commissioned officers. The men are also taught the meaning of "water tight integrity." This is very important. Moving pictures are shown which illustrate and bring to the eye just what water tight integrity means and the importance of it. Pictures are shown which give the student an idea of chemical warfare. It gives the names of the commonly used gases, their peculiarities and characteristics, when used and why. These pictures show how to put on a gas mask, how to test the mask and the care of it. Before the School is over short range battle is simulated with the 5″ 51 and 5″ 25 anti-aircraft gun. Last but not least, the secrets of chipping of paint are shown by pictures. This particular subject is one which invariably draws fervent and enthusiastic remarks from those men who have been to sea and are returning to it. Needless to say, these remarks are not fully appreciated by the uninitiated. Finally, the men are given a written examination. This includes the following subjects:

Messages
Signals
Orderly duty
Ratings (of Naval Officers, Warrant and CPO's)
Time and bells
Seamanship
General Orders
Hammocks
Gunnery, 5″ 51
Gunnery, 5″ 25
Sight Setting
B.A.R.
.45 Pistol
Semaphore
Loading drill
Drill, practical (close order)
Telephone talker
Bugle calls

The men are given marks by the instructor on the care of the uniform and equipment and their personal appearance. They are also graded on the daily condition of their lockers. The course has now been completed and the graduates are put in the casual section of the School awaiting transfer to sea. While in this section, they are available for guard duty and, when not on guard, pursue the course of training laid down in Marine Corps Order No. 113.

This completes the picture of what the Sea School at the Marine Barracks, Norfolk Navy Yard, Portsmouth, Virginia, is doing. It is hoped that the author has so

expressed his thoughts and given a picture which will enable the reader to understand what the Sea School is striving for. The schedule could have been amplified in lengthy descriptions of its operations. This is considered as being not necessary. Only the high lights have been touched, together with the motives actuating any changes in the schedule.

As was previously stated, this article is concerned only with the present and future. It was also stated that to change the present is many times difficult. We can, however, profit by what today teaches and lay plans for the future. The writer believes that whereas the permanent personnel at the School is of sufficient strength for peace times, the equipment and material are not up to date nor complete for either peace or war time. The equipment and material should be of such modern type as to allow the training of gun and fire control groups. The Gun-Shed which houses the ordnance is old, too old. Given another storm such as this section of the country witnessed last fall and it is doubtful whether the Gun-Shed will continue to stand. A new brick building is necessary. It is suggested that the first floor be equipped for a gymnasium and utilized as a basketball court. A good gymnasium for basketball is badly needed at this post. The second floor would contain the Sea School's equipment and ordnance. Above the second floor, a tower would project resembling the fighting top of a ship where the director for the 5" 51 would be housed. This would give the men ample arc for training. There would be on the roof, and exposed as aboard ship, the director for the 5" 25 anti-aircraft gun. This also would give the men on director ample space for training the director on simulated targets. The guns would be so located as to resemble the same location found aboard ship. Here would then be an establishment which would allow for the complete training in fire control and gun crews so that, in the event of war, crews could be trained and sent aboard ship, ready for action. It should be remembered that, in the event of war, Marine detachments aboard ship will have to be expanded at least 60% if their present battle stations are to be fully manned. This is due to the steady increase of battle stations for anti-aircraft protection. The author is convinced that in the next war this protection will jump to far more formidable proportions than we today are preparing for. Desperate and fierce air attacks will take place over the sea and ships, long before the ships themselves ever engage.

In time of peace, the armed services must be constantly studying and thinking of war. It is believed that the Marine Corps can render immeasurable service to the Navy by having, on the East and West Coasts, sea schools so equipped in modern directors and fire control equipment for the 5" 51 and 5" 25 anti-aircraft gun as to insure rapid and efficient training of Marines, ready to man the increased stations the Navy will be compelled to have when the nation is confronted with war.

THE TRAINING OF A NATIONAL MATCH RIFLE TEAM

MAJOR MERRITT A. EDSON, U.S.M.C.

■ The equipping, selection, organization and training of a National Match Rifle Team has been discussed and considered ever since the inception of the National Matches over thirty years ago. It is a subject full of infinite ramifications; a subject about which every team captain, every team coach and probably every individual rifleman has his own opinions which will vary in more or less detail from that of every other shooter. Numerous articles have been published and several books written about this business of training a rifle team, so that whatever I say will largely be a repetition of what has already been expressed much more clearly and concisely than I can hope to do. I shall try, however, to set forth in this article, the principles underlying the training and development of recent Marine Corps rifle teams.

In the organization of any team, there are two almost equally important things to be considered, materiel and personnel. It is not enough to pick up any ten rifles, give them to the best ten marksmen who can be found, put sixty rounds of ammunition in each man's belt and go out to shoot the big team match, nor, conversely, is it sufficient to take any ten men who may be available, give them the best equipment in the world and hope to bring in the national trophy. Both materiel and personnel must be given careful and thorough consideration in the team organization.

It is advisable that the following standard articles of equipment be provided for each individual before the team assembles for its training period:

A properly fitting shooting coat, with sheepskin pads properly located and sewn to the coat.
Shooting gauntlet or glove to protect the hand.
Shooting bag.
Micrometer or vernier.
Sight covers, front and rear.
Gun rest.
Spotting telescope with proper rest.
Individual score sheets and binder therefor.
Camp stool.
Cartridge belt.

These articles are so universally used that no comments regarding them are necessary. I would reiterate, however, that every individual shooter should have each of them in his possession from the beginning of the training season until the last shot has been fired at Camp Perry in order to eliminate any feeling of inferiority or the necessity of borrowing this or that from some team mate.

In addition to the above, each man on the Marine Corps team is issued a heavy woolen undershirt or a regular athletic "sweat" shirt. This gives additional protection to sensitive skin and muscles; it absorbs perspiration on hot days and keeps the wearer warm on cold, damp days, thus warding off many common colds during the season.

The most important article of equipment is, of course, the rifle. The National Match rifles which have been

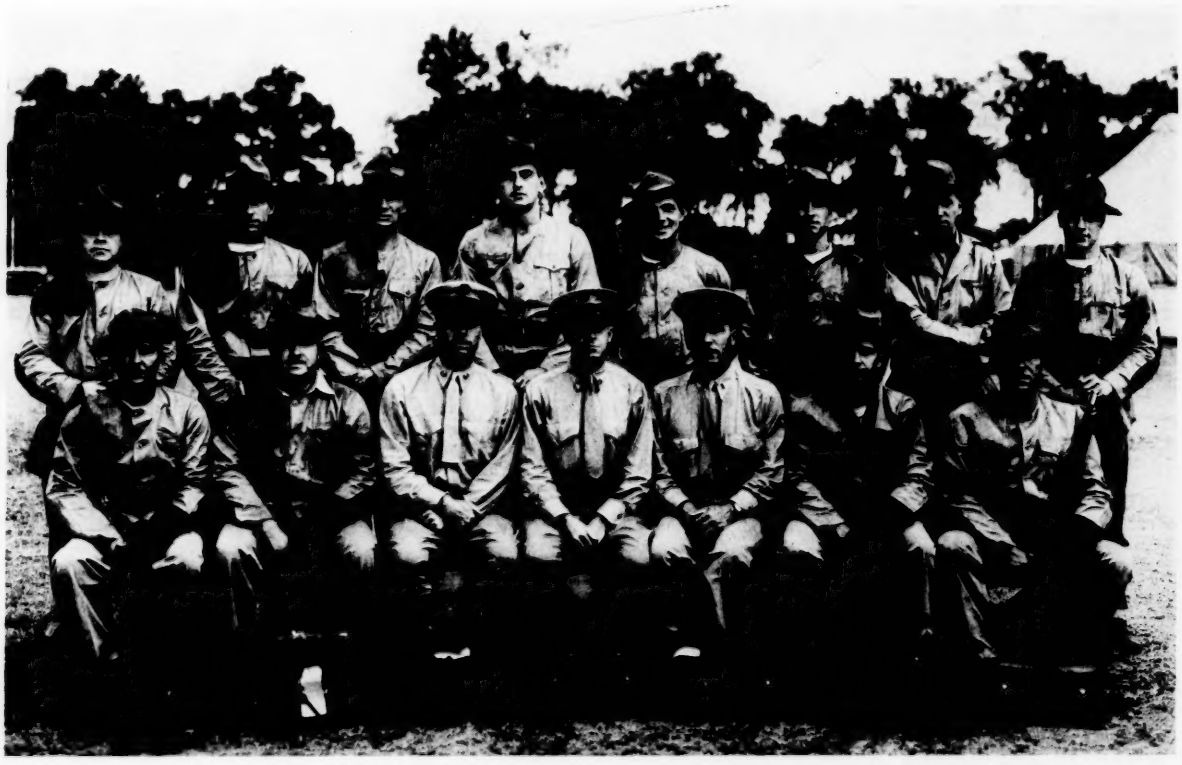
built and issued by Springfield Armory in recent years have been so uniformly good that no one team can possibly have an advantage over any other team in this respect. Practically every one is well stocked, well fitted, properly head-spaced and the barrels, without exception, are uniform and well made.

Each member of the squad should have at least two rifles which he, himself, has selected; which he has fired enough to learn all their characteristics; and in which he has complete confidence. It must be remembered that a man cannot be forced to get good scores with a rifle with which he is dissatisfied. To make him continue shooting such a weapon may so discourage him that a valuable team shooter may be lost. Occasionally a man will reject a rifle simply because he does not like the feel of it, although it will perform perfectly and be entirely acceptable to some other member of the squad. Perhaps on the first or second day with a new rifle, the shooter gets a poor score and, as so often happens, blames the rifle for it. Whatever the reason, take the man's word that the weapon is no good and give him another in place of it. Then as a check on both man and gun, give the doubtful piece to some man of the squad who is known to be an excellent shot and see what he can do with it. Very rarely it will be found that the rifle is, in fact, no good. Usually the fault lies with the shooter. Once in a while there is a man who is never satisfied with a rifle, who always blames the gun and never himself for a bad score. In most cases he can be cured by showing him the results obtained by a really good rifleman with the weapon which he has condemned. If this does not work and he remains a chronic kicker or "alibi artist," he is not team material and is dropped from the squad.

Every rifle should be inspected by the team officials before it is issued to the competitors. Proper stocking is of most importance. Just what constitutes correct stocking is something of an open question. Personally, I like to see the barrel resting exactly in the center of the stock, bearing against the wood with approximately five pounds pressure, and entirely free from the metal of the upper band. If the barrel bears against one side of the upper band or the other at the muzzle, it will almost certainly develop a floating zero or erratic elevations, or both. If the barrel rests against the upper band at the top and is free of the wood of the stock, it will usually develop peculiar elevations. In either of these cases, I believe the rifle should be restocked and the fault corrected before it is issued. Once issued, a little linseed oil should be rubbed into the wood each day to prevent warping, and it should be protected against rain, excessive moisture or excessive heat.

Guard screws should be tightened when the rifle is first issued and then, after three or four days' shooting, they should again be tightened and either set in place or marked so that any movement of the screws can be immediately detected by visual inspection.

Triggers are a source of trouble to all coaches. They should be worked on only by the coach or by some other designated expert, never by the individual shooters. The same thing applies to any other repair work or adjustment of the piece, no matter how trivial it may be.



Marine Corps National Rifle Team, 1936

This is the only way to guard against some member of the team showing up for the 1,000 yard stage of the big match with a rifle which he tore down completely and restocked the night before. I am a firm believer in a fairly heavy trigger pull. A man properly trained to use a four-pound pull which has a clean, even break, constantly outshoots the man who piddles around with a three-pound pull or less. A light trigger is dangerous. The shooter who uses one works under a mental handicap. He never dares to grasp the piece firmly with his right hand; he is always wondering when it is going to develop a hair trigger, and his scores are bound to suffer.

Finally, the rifle must be cleaned daily and properly cared for to prevent rust and pitting. With the use of gilding metal bullets, metal fouling is almost unknown. For the first time in several years, I noticed several rifles in this year's squad which showed definite signs of such fouling.

Under the regulations governing the national matches as well as in accordance with good common sense, the selection of the men who fire in the national team match must be made by some sort of competitive try-outs. The objective, of course, is to have on that team the best ten riflemen from each of the several services, from each National Guard organization, or from the civilians of each State. This can be realized only through a process of selection and elimination by means of a team try-out and a training period of more or less duration.

As in any other sport, a good team prospect must have two prerequisites; he must like the game, and he must have a certain amount of natural ability. Any *real* expert rifleman is team material. In the Marine Corps we find that it requires an average of three years' training to develop a new man into a team shooter. A very few make the grade in less time than that, but the average training period covers three years from the time he first comes to the attention of some range officer as possible team material.

Besides a love for shooting and ability, there are certain other characteristics which, although they are not primarily essential, we like to see in our candidates. Large men are to be preferred to small ones; they generally hold closer and can absorb the recoil with less physical strain. Blue or grey-eyed men usually have stronger eyes and are less affected by light changes and mirage than black or brown-eyed men. And a calm, phlegmatic temperament is preferable to a nervous, irritable, high strung one. Rifle shooting has as many ups and downs as golf and a man must be able to take the bad breaks and the good ones without losing his temper or becoming emotionally unbalanced. There are many exceptions to these characteristics, but they are the ones we look for in new material and they are usually present in our best shooters.

We believe that we have in the Marine Corps a very thorough and fair method of bringing together for our team try-out the best material, both old and new, which we have in the Corps. This consists of a series of division competitions which culminate in the Marine Corps competition held at Quantico, Virginia, to determine the small arms champion of the Corps. These competitions are held annually regardless of whether National Matches are fired or not. There are now four Division Competitions: the Asiatic, fired at Peiping, China, in September; the Western, fired at San Diego, California, in March; the Southeastern, held at Parris Island, South Carolina, in April; and the Eastern, at Quantico, Virginia, in May. The total number of competitors in these four matches is 200, all of whom are enlsited men of the non-distinguished class. Every post in the Corps is represented on a purely quota basis. The high twenty per cent over the course, which consists of firing twice over the National Match course on two consecutive days, are awarded Division medals, counting as a leg towards distinguished riflemen. In addition to the regular competitors, such officers and distinguished marksmen as may be authorized or ordered to fire, compete for place only, except that non-distinguished officers are awarded medals corresponding to that issued to an enlisted competitor whose score they equal or beat. Following each Division Competition, all medal winners and those officers and distinguished marksmen whose scores entitle them to the privilege are ordered to Quantico to compete in the Marine Corps Competition. About thirty officers, thirty distinguished marksmen and forty division medal winners, a total of one hundred, fire in this match. The score made for record in the Marine Corps Competition, plus that made in a preliminary stage fired once over the National Match course, constitutes our try-out for membership on the Marine Corps National Rifle Team squad.

The scores made in the try-out form the major basis on which these men are selected. There are a few exceptions each year. I have already mentioned the chronic alibi artist. There is also the garrulous man, the growler, the troublemaker, all types of men who have no place in a squad where goodwill, cooperation and team spirit are essential elements if we are to produce a winner. Luckily, we seldom have to consider these qualities in selecting our teams. Then there is the man whose ability is limited. He is usually near the top of the list in the try-outs but after four or five years with the squad, experience has shown that he will never develop into team material, so we eventually and reluctantly leave him behind in favor of some youngster who shows promise of becoming a real shooter. A few men because of financial or family reasons do not want to go with the team. All of them together amount to perhaps ten per cent of the high scorers and to take their places we reach down into the bottom half of the list and select those men whom the team officials consider the most promising material. We do not consider either the team captain or the team coach as serious contenders for berths on the team as shooting members. Their duties are such that they never have the opportunity to shoot regularly and their value as team officials decreases in proportion to the time they spend on the line with a rifle.

With the selection of the team squad, our real training season begins. There is considerable difference of opinion as to the correct length of this training season. It should be long enough to whip the team into shape, to develop the best that they have in them, but should not be so long as to make the men become tired, worn out and stale. Too much shooting is as bad or worse than too little. A man can absorb just so much pounding and no more. Some men need only a little training to keep in shape, others a great deal. Usually the older men reach their peak in three or four weeks' shooting while the young, new men will show a continual and gradual improvement throughout the entire season. We have concluded that a five weeks' period is the absolute minimum in which we can hope to size up our shooters

and have them at all ready for the big matches, while much over ten weeks is too long. From eight to ten weeks is probably the best.

During the training season, there should be assigned the required number of markers and other special detail men so that the shooting members of the squad will not have to pull their own targets, perform mess duties, or any other tasks which will take them away from the business of shooting. It is impossible to get the best results from the men under any other circumstances. They should also be ordered to some range where their training will not be interrupted. Preferably, this range should be one which affords as many different light and wind conditions as possible, the more tricky the better. Strong bright light, such as is found on sandy ranges, and hot, enervating climate should be avoided. Shooting day after day under such conditions will affect the eyes, health and morale of any organization.

The team coach and assistant coach, if there be one, should always be the personal selections of the team captain. These officials must work together in the closest harmony. They should be personal friends, if possible; they should have the confidénce and respect of each other; and their ideas regarding every phase of the shooting game should run along the same line. Where there are differences of opinion, and they are bound to occur, they should be discussed and ironed out in private and the decision arrived at must be strictly adhered to by them throughout the season. There cannot be unity of thought and effort among members of the squad unless there be unity of control and direction among the team officials themselves. In the Marine Corps, the details of administration fall to the lot of the team captain. The team coach is all that the name implies and he is responsible, under the direction of the team captain, for the actual training and coaching of the team itself.

Training throughout the season is progressive. There is a conference of fifteen minutes or more every shooting day from the first day at Wakefield until the last day at Camp Perry. There we attempt to cover in minute detail everything connected with the development of the team: position, aiming, bolt operation, sight setting, trigger squeeze, calling the shot, keeping the score book, doping wind, the effect of various atmospheric conditions on the location of the shot group, physical condition, recreation. We encourage questions and discussions from every member of the squad. Our school is in the nature of a refresher course at first, to correct faults which may have been developed; to straighten out erroneous ideas which may exist in the squad; and to impress on every man the extreme importance of carefulness if they are to produce their best scores. These conferences are supplemented by individual coaching on the firing line, so that faults are corrected from day to day. As the season grows older, the conferences become shorter; we pass from consideration of the rudiments of the game to the finer points such as wind doping, pair shooting and team shooting, reviewing from time to time those things which our observations indicate are being slighted or neglected.

In the same way, the shooting itself is progressive. For the first few days we normally let each man shoot individually in order to again check on their respective abilities. Not later than the end of the first week, we arrange the squad in pairs, placing an older experienced man with a beginner. Temperament and ability must be considered. Men shooting together must be friends with agreeable dispositions. Their shooting ability must be somewhere near the same so that there is constant competition between them. We try to get our best five old and five new most consistent shots together. In order to do this, we break up pairs and rearrange them from time to time so as to arrive at the combination which will give us the largest aggregate team score.

We constantly watch and check the positions of our shooters. In my opinion, a good comfortable position is more important than one in strict accordance with prescribed regulations although it is true that the prescribed positions are usually the most comfortable ones for the average shooter. The sling should be tight enough to support the rifle but not so tight as to bind the muscles, set up excessive pulsations, and cramp the man in a strained position. On the other hand, too loose a sling will develop sore shoulders and erratic groups. In the proper position the rifle and the man are bound together as one, without placing the man in an uncomfortable position where excessive strain is required by any muscle or part of the body. When a man goes on the firing line, he is taught to select a good, smooth place in which to fire, to take such a position that the sights of his rifle will align themselves on the target without effort on his part, and to "snap in" two or three shots before starting his record string. His spotting telescope, shooting bag, and gun rest are then moved to correspond to the position he has selected so that there may be as little movement as possible during his string. These things are important and are stressed during our training season. To emphasize the importance of a correct position, every man is required to fire several strings at the long range with telescopic sights early in the season. This shows the new man and reminds the old man of the impossibility of getting every shot off perfectly and of the necessity of firing as quickly as he can after the sights are properly aligned on the target.

Snapping-in is invaluable, especially in the off-hand and rapid fire positions. These two positions depend entirely upon coordination of the eye and trigger finger. In addition, in rapid fire, one has to master fast, smooth bolt manipulation. Practice alone develops this and good, conscientious snapping-in is more beneficial than too much shooting. He should learn to shoot his rapid fire score with a few seconds to spare. Bolt operation must become second nature to him so that he never has to worry about getting his shots off on time. In any position, he should learn to get his shot away as soon as he is aligned on the bull's-eye. The fast shooter, so long as he does not become careless, usually turns in the higher scores. In this connection, the team officials must develop the desire in the personnel of the team to improve their scores. If this can be done, the men will involuntarily spend their time in dry shooting and the team will be an enthusiastic, hard-hitting aggregation. If, on the other hand, the rifle team is just another job with fifty or sixty rounds to be fired as a task each day, the best material in the world and the best available coach cannot make a winning team.

The team officials must learn all the characteristics of the various shooters. Besides the notes made by the team coach, each man must keep accurate and complete score sheets. This means micrometer and yard elevations at each range, zero of the rifle at each range, the actual windage as shown on the wind gauge for each shot, any change made in elevation for each shot, the point of strike for every bullet by number so that it

can be identified, the value of each hit in its correct order, the type of ammunition used, the direction and velocity of the wind, and the temperature, light conditions and the time of day under which each string is fired. Only by keeping an accurate individual record can the shooter and the team coach learn the dope on his rifle, the correct zero, the correct elevation under any conditions in which he may fire, and any eccentricities which he may have. One man may have to lower his elevation after the first shot in order to stay in the black, whereas his shooting partner may have to raise his elevation or make no change. Some men will be affected by light changes, others will not. Some will have a different zero for different positions and many of them will have different zeros for the different ranges. These things can be learned only by experience and the keeping of an accurate shooting record.

Every man must learn all the dimensions of the targets which they use and the windage and elevation rules applying to the ammunition which they shoot. Only by doing this can they make quick and accurate adjustment of their sights in order to move the center of their shot group into the center of the bull's-eye.

Every shot fired during the training season is a shot for record and each day's score is a score in competition for a place on the team. At the end of the year, each man is so used to shooting under pressure that a big individual or team match should mean nothing more to him than another day of practice. After each day's firing, scores are posted showing both individual and pair standing. Weekly averages with individual and pair standings are published at the end of each week, and composite averages of individual standings for every shot fired during the season are compiled and posted beginning with the second week of training. The coach keeps an individual record sheet on each man, which may be a tabulation of his daily scores and averages or may be in graph form, the purpose being to give him some record which will show at a glance a shooter's strong ranges, those ranges at which he may be having trouble, and the general trend of his score.

At the end of two weeks' shooting, eliminations start and continue weekly until the end of the season. At about the fifth or sixth week, we divide the squad into two groups—a team squad and a special squad. It is from the team squad that we make the final selection of the twelve men who will represent the Marine Corps in the National Rifle Team Match. The special squad contains those men who, because of some weakness at certain ranges, such as rapid fire or off-hand, are not yet team material. There are also those erratic shots who may turn in a 290 or better one day and a 265 the next. Obviously, these men are not team shooters although all of them have possibilities of developing into team material in later years.

In picking the ten men who will fire on the National Team, we consider three things of almost equal value; average daily score, average match score, and the trend of his daily scores, upward or downward, at the time of selection. As an illustration, I am listing below the averages made by the ten men who actually fired on the Marine Corps National Rifle Team of 1936:

Week ending	*Individual*		*Team Average*
	High	*Low*	
June 19	282.8	273.0	2774.1
27	282.9	274.2	2787.7
July 2	284.7	273.1	2806.3
10	287.3	264.5	2789.9
17	287.1	271.2	2799.5
24	286.8	276.9	2818.3
30	287.9	281.9	2850.9
Wakefield Matches	289.0	280.8	2848.0
Aug. 22	286.0	277.6	2811.1
Average match score	285.6	278.6	2831.4
National team match	292.	273.	2830.

It is interesting to note the close relationship between the preliminary match average of 2831 and the score of 2830 made in the National Rifle Team Match.

In our first conferences we stress the important relationship between good physical condition and high score. If a man drinks excessively or starts running around nights, his scores suffer immediately and he soon shoots himself off the squad. We encourage athletics such as walking, volley ball and indoor baseball. Throughout the season we try to develop in our men the desire to keep themselves physically fit in order to produce their best scores.

Fair play and good sportsmanship are as much an integral part of our training as holding and squeezing. Any man who takes a point to which he is not entitled, either in practice or in a match, is immediately dropped from the squad. Match rules are carefully explained and insisted upon. We would prefer to lose every match we enter than to win one by anything savoring of unfairness. Team spirit is fostered from the first day of our training season, not only in the shooting members but in every man in the detachment. The man in the butts, the messman in the galley, the special duty men are all made to feel that their jobs are just as important in their way as that of the man who fires a rifle. If we win the National Match, every man in the detachment feels, and rightly so, that it was his team which won and that he had some part in winning the national trophy. It is the team that counts, not the individual. It is not the Lloyds, the Jones, the Tuckers alone who win the big team match, but every officer and man in the detachment working together towards the common end. If the team officials are ready and willing to take the blame when things go wrong; if they will give a word of encouragement instead of a growl to the man who, after working his heart out, leaves the line with a low score instead of his highest for the season; if every man can learn to subordinate his individual desires to the good of the team as a whole, then we have an aggregation which is in a fair way to become a winner.

In conclusion, I wish to say just a word about what the National Matches mean to us in the Marine Corps. Naturally, we like to win the national trophy as often as we can. So long as we compete in the National Matches we will do our level best to come out on top. But in the final analysis, we do not collect our squad together for the sole purpose of winning the team match. Shooting to us is a serious business. The ability of our men to shoot quickly and accurately may mean the success or failure of some campaign in the tropics. It may mean the lives or deaths of an entire detachment which finds itself in the middle of a Central American jungle, five or six days away from the nearest reënforcements and outnumbered ten to one by an enemy who never takes prisoners. The training season which terminates with the National Rifle Team Match is, to us, nothing more nor less than a small arms firing school to which we send the pick of our Corps to make them more valuable to us as small arms in-

structors. We believe that it is the best school of its kind in existence. At the completion of the matches at Camp Perry, the men of our squad are sent throughout the Corps to act as range officers and coaches to teach to others what they have learned during the summer. If, at the end of the season, we have made them better qualified to act as small arms instructors; if we have indoctrinated them with the spirit of team work, cooperation and leadership; and if we have taught them the importance of fighting honestly for every point and of never quitting until the last shot has gone down the thousand yard range, then, whether or not we have won the national team match, we have, in its broadest sense, attained our objective.

MONT ST. QUENTIN*

Some Aspects of the Operations of the 2nd Australian Division from the 27th of August to the 2nd of September, 1918

COLONEL J. M. A. DURRANT, C.M.G., D.S.O.,
Australian Staff Corps

■ The achievements of the infantry units of the 2nd Australian Division, from the 27th of August to the 2nd of September, 1918, during which period they advanced from Cappy to the outskirts of Peronne, forced the passage of the Somme and captured Mont St. Quentin are so remarkable, and even astonishing, that they well merit our study and a close examination as to the cause of those successes. The main object of this article is to invite attention to the important part played by the rifle grenade during the fighting of the infantry of the 2nd Division, Australian Imperial Force, at Mont St. Quentin in 1918, and to advance the plea that the successful tactical methods then employed should be considered carefully with a view to incorporating certain of them in the training manuals of today. During the period referred to the writer was the A.A. and Q.M.G. of this Division, but having been a brigade major and then a battalion commander immediately prior to this, during the battles of 1916 and 1917, was particularly interested in the evolution of infantry tactics which had been developing throughout the war, and it is the impressions formed then which have prompted the preparation of this article. He was an observer of a number of the incidents referred to in the following, and frequently discussed many details of these fights with battalion, company and platoon commanders who participated in them.

Between midnight on the 26th-27th of August, 1918, and 10.30 A. M. on the 29th of August the 2nd Australian Division advanced from the neighborhood of Cappy to the line of the Somme on an average frontage of 5-6000 yards and to an average depth of 12,000 yards. On the 30th of August the 5th Australian Infantry Brigade crossed the Somme at Feuilleres and cleared the village of Clery-sur-Somme, an advance of over 4,000 yards. On the 31st of August this Brigade attacked the high ground at Mont St. Quentin, advancing about 2,000 yards on a similar frontage, and penetrated the village, but counter-attacks dislodged them. On the 1st of September the 6th Australian Infantry Brigade passed through the 5th Brigade, captured Mont St. Quentin and held it, penetrating to a depth of about 1,500 yards. On the 2nd of September the 7th Australian Infantry Brigade advanced through the 6th Brigade and cleared the village of Haut-Allaine to a depth of 2,500 yards on a frontage of over 2,000 yards. On the night of the 4th-5th of September the Division was relieved. During the nine days the Division had been in the line it had spent seven days in continuous fighting and had captured a territory of over 15,000 acres, including fourteen villages. It had captured 30 officers and 1,591 other ranks, 2 field guns, 265 machine guns and 18 trench mortars. It had inflicted enormous losses on the enemy in killed and wounded. The ground gained was of immense tactical importance, especially Mont St. Quentin, which was the key to Peronne, and its capture led directly to the evacuation by the enemy of all the territory eastward back to the Hindenburg line. Our own losses in the Division were 117 officers and 1,638 other ranks killed, wounded and missing.

The performances of the 5th Australian Infantry Brigade during the first four days of this operation were most extraordinary. The Brigade was not at full strength, the four battalions totalling only 70 officers and 1,250 other ranks, including battalion headquarters, for the attack on Mont St. Quentin on the 31st of August. This Brigade fought almost continuouslv for four days, making a magnificent advance of over 8,000 yards, crossing the Somme, capturing trench after trench against strong opposition, and finally storming the village of Mont St. Quentin, which, with its surrounding trench systems and its situation on such a dominant height in difficult terrain, constituted a veritable fortress. The 5th Brigade captured 13 officers and 950 other ranks, together with 79 machine guns and 4 trench mortars, during this brief period. On the 31st of August the casualties of the 5th Brigade were 17 officers and 366 other ranks killed and wounded. The enemy's losses in killed and wounded must have been very considerable, for his dead were found in great numbers throughout the whole of the area, particularly in the vicinity of Clery and Mont St. Quentin and the neighboring trench systems.

The fighting which took place was not of the trench to trench type, during which the infantry advances slowly behind a close and heavy barrage of artillery fire, such as was seen during the first battle of the Somme in 1916. The attacks were ordered at such short notice that it was not practicable to employ a creeping barrage of the usual form. In some instances, particularly on the 2nd of September, the infantry advances far exceeded the range of the guns. There were five field brigades and one heavy brigade of artillery under divisional control, and as for the greater part of the time one infantry brigade was operating on the whole divisional front, the principle was adopted of detailing one field artillery brigade to cooperate closely with each battalion in the line, a liaison officer being stationed at infantry brigade headquarters. The remaining artillery brigades were maintained as a divisional reserve on any portion of the

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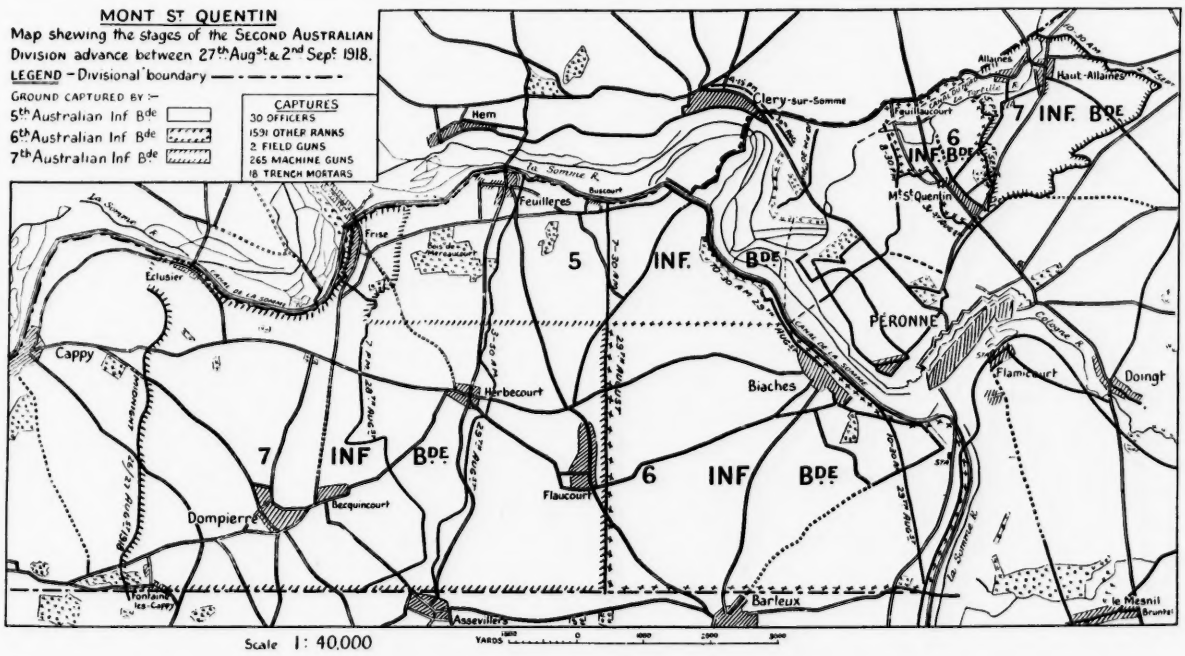
front as required. During the advance to the Somme the field artillery brigades working with battalion commanders moved forward by batteries, one battery at least always being kept well forward to deal with long range targets, the remaining batteries being distributed in depth. In certain special cases, sections were detailed to work in close touch with company commanders for short periods and some excellent work was done by single sections on suitable targets. The artillery support to the infantry was invaluable, and information of many points of resistance was obtained first hand by batteries which engaged these at once with very satisfactory results. Notwithstanding this, it was frequently found that when information had to go back to battalion headquarters by runner, and thence to the artillery, delay was unavoidable and the information received was useless, the situation in the meantime having altered completely. When the 5th Australian Infantry Brigade crossed the Somme on the 30th of August it had to fight all day with very little artillery support owing to the difficulties encountered in getting the batteries across the river. For the attacks on Mont St. Quentin on the 31st of August and the 1st of September it was found necessary to group the field artillery brigades, but time did not permit of the usual form of barrage, so concentrations on a timed programme were ordered on selected localities, the fire being adjusted and maintained according to the projected rate of the infantry. The heavy artillery was used in the same manner, its fire being placed on the same areas, but lifting earlier.

The machine-gun support was afforded by the 2nd Australian Machine-Gun Battalion of four companies. Normally, one machine-gun company worked with each brigade with the fourth company in divisional Reserve. This latter company several times reinforced the attacking brigade. For instance, two machine-gun companies were under the command of the 5th Australian Infantry Brigade for the attack on Mont St. Quentin on the 31st of August. During the whole period no attempt was made to fire a definite machine-gun barrage to support the infantry advance. Infantry brigade commanders usually allotted one or two sections of machine guns to work with each attacking battalion during the advance, any remaining guns being pushed forward later to stiffen weak points in the line or cover gaps. On several occasions large parties of the enemy were dispersed by direct fire; in one case, on the morning of the 2nd of September, about 500 of the enemy were engaged at a range of 2,200 yards. Fighting limbers were used for the transport of guns to a considerable extent; but, owing to the excellent observation facilities both natural and by balloon enjoyed by the enemy, very long distances had to be covered by man-handling, which resulted in the detachments often being very exhausted when the firing positions were reached.

This fighting took place in the Somme valley to the west of Peronne and on the high ground of Mont St. Quentin (100 metres) north of Peronne. Mont St. Quentin itself was the key of the whole German position east of the Somme, and as the fall of Peronne was a natural corollary to the capture of this height it was most stubbornly defended. The ground rises steeply on three sides (north, west and south); the ruins of the village were lying just below the western side of the summit. The terrain presented enormous possibilities for a stout and prolonged defence, being covered with a maze of old trenches, wire and shell-holes, relics of the desperate fighting which took place there in 1916, and the ground provided plenty of natural cover (banks, debris, etc.) to the defenders. From prisoners' statements it was learned that the German command had issued instructions that the position was to be held at all costs, and had garrisoned it with special troops. Certainly the garrison fought desperately to obey these orders. Standing on the site of Mont St. Quentin village after its capture and looking westward along the marshy valley



of the Somme through which the victorious Australian infantry had fought their way, a thoughtful soldier could only wonder and say, "However was it done?" There are a great many who are still wondering.

The German system of defence was very similar to that taught in our own Army today. The ground was held by fire, in depth, the machine gun being the backbone of the defense. There were forward defended localities or posts, with their defense arranged in depth, and numerous machine guns covered these localities by cross fire. The framework of the enemy's defense was his artillery and machine-gun fire.

It must be clearly realized that, on account of the area covered in width and depth and the system of defending their ground employed by the Germans, the fighting which took place during these operations was in no sense static. There was far more room for maneuver than in the trench to trench operations of 1916 and 1917. There was "elbow room." The fighting conditions approximated those of open warfare to a considerable degree. Under these conditions of so much moving battle, it was found that our artillery, numerous and well armed and trained as it was, could not support the infantry advance on all occasions as closely and as quickly as the occasion often demanded. The infantry was held up by machine-gun fire time after time under conditions which made it impossible for field guns to knock out the hostile machine guns in a brief space of time. It was frequently found that the field gun cannot put machine guns out of action as effectively and speedily as is popularly considered to be the case. The machine gun is a very small target, it can be readily moved to a new position and the accuracy of the field gun at the range at which it is compelled to use against machine guns is such that a very great expenditure of time and ammunition is required before effective results can be obtained and the infantry advance resumed.

Our own machine guns were not able to assist the infantry in the attack as much as was expected. These weapons come into their own in defence, but in these attacks it was found that situations frequently occurred in which the characteristics of the guns prevented them from engaging the strong points which were preventing our rifle sections from getting forward. The low trajectory made it unsafe to fire over the heads of our infantry at short ranges. When suitable targets could be engaged at long ranges the machine guns gave valuable support. This is just as true today as it was in 1918.

Yet our infantry did advance rapidly and deeply into the enemy's position in spite of a very strong machine-gun defense. The morale of the enemy's infantry in 1918 had deteriorated somewhat from its high standard of 1916, but this could never be said of the German machine gunners, who were skilful and brave men to the end. The number of machine guns captured (265) indicates the formidable character of this type of opposition which was encountered. Further, our infantry continued to advance on numerous occasions when time did not permit of arranging for the close support of our artillery. How was it done? The answer is to be found in a number of the battalion reports on their operations, a typical sentence reading as follows—"Eleu Alley, Ourcq, Gond and Avion trenches were all systematically cleared by rifle-grenade and Lewis-gun fire."

This requires some explanation. The main point in the explanation is simply this, that the infantry units of the 2nd Australian Division as a result of their war experience had evolved a most effective method of co-operation between the light automatic and the rifle-grenade weapons. Necessity had forced them to develop this most efficient and effective technique for close fighting. The writer had not the same personal knowledge at this time of Australian divisions other than the 2nd Australian Division, but concluded that the use of the rifle grenade in the manner to be described was generally in use in other divisions of the Australian Corps because their expenditure of rifle grenades seemed to be much the same.

Cooperation between the Lewis-gun and the rifle-grenade sections within a platoon was the usual basis of the plan of infantry attack against the defended localities, and was worked along the following lines. When the infantry advance was definitely checked by fire from a rifle post, a machine-gun post or, more often, from a position defended by both rifles and machine guns, and this position had been located, the company or platoon would immediately set about the work of capturing this obstacle to their progress. The platoon commander would assemble his section commanders and decide upon a plan. When conditions as to range and cover were suitable this plan provided for the Lewis guns taking up positions from which they could open fire on the objective when required and for the rifle and grenade sections, their number and strength varying according to the task, to select the best covered line of approach to the objective, so as to get to effective rifle-grenade range. Some of the men most skilful in the firing of the grenade could hit a large shell-hole five times out of six at one hundred yards, and do very good practice at twice that distance, or even farther. Accurate rifle-grenade fire on a section of trench in oblique or enfilade was not so difficult as against defended shell-holes. It must be remembered that many of these men were veterans of several years' fighting experience and that they had developed their skill by constantly practicing rifle-grenade firing with dummy grenades when out of the line. The grenades they used were the Mills Grenade No. 23, which required a special rod and cartridge, also the Mills Grenade No. 36, fired from the discharger cup affixed to the rifle. It was always an object in the plan of attack to get the lines of fire of the Lewis guns and the rifle grenades as near to a right angle as possible and for the rifle grenades to bring oblique or enfilade fire on the objective. The attack would then commence and it would not be long before the Germans in the post would find themselves under a heavy, accurate and destructive high-angle fire from rifle grenades. The length of time they stood this depended on the range, their morale and their casualties, but generally the effect of the rifle-grenade fire was to cause the survivors to bolt. As soon as they did this the Lewis-gun sections were given their opportunity and they would open fire on the targets thus forced from cover into the open by the fire of the rifle grenadiers. An eye-witness would first of all see the grenades bursting in and around the objective and then would notice a diminution or cessation of fire from the enemy's post; after an interval of more grenade bursts he would see the enemy survivors rush from the post and run towards their nearest cover. As soon as the enemy was well in the open the observer would hear the familiar rat-tat-tat-tat, rat-tat-tat of the Lewis gun and see the strike of the bursts around the running men who were bowled over like rabbits. The cooperaton of the light automatic and the rifle grenade had once more been too powerful and deadly for the bravest enemy to withstand and our infantry advance

would be resumed. The effect of the constant repetition of this tactical maneuver on the morale of the enemy can well be imagined. The high angle of descent of the rifle grenade searched out the garrisons of posts which otherwise had excellent cover and as the rifle grenadiers were beyond the range of hand grenades, and the fire often came from more than one direction, there was no effective means of reply available at once. It must be admitted that our rifle grenadiers were aided by the limited amount of traverse of the German machine-gun mounting. When the enemy ran the Lewis-gun fire usually came as a surprise, since the light automatic sections generally reserved their fire until the appearance of the target they were waiting for.

This then was the means by which the 2nd Australian Division infantry penetrated the machine-gun defenses of the Germans at Mont St. Quentin. Post after post was captured by the cooperation of high-angle rifle-grenade fire with the fire of Lewis guns. The extraordinary results speak for themselves. Two hundred and sixty-five machine guns were captured in seven days' fighting. The 5th Australian Infantry Brigade captured 79 of these machine guns in four days. The writer has no statistics as to the number of rifle grenades actually used in these operations, but he kept a record of the number of rifle grenades actually issued by the S.A.A. Section of the 2nd D.A.C. during the nine days from the 27th of August to the 4th of September and it totals over 20,000 as follows:

Unit	Mills Grenade No. 23	Mills Grenade No. 36	Totals
5 A. I. Bde.	2,568	2,328	4,896
6 A. I. Bde.	4,632	4,632	9,264
7 A. I. Bde.	1,920	1,872	3,792
Other Div. units	540	1,968	2,508
Totals	9,660	10,800	20,460

Of course these figures only give a general indication of the number of the grenades actually fired, but they do show how extensively they were used throughout the Division. The unit echelons were full at the beginning of the operations.

What is the position today? Our infantry soldier has very few rifle grenades and there does not appear to be sufficient stress laid on the importance of training in the firing of the rifle grenade. Nor is there any special reference in the training manuals to the vitally important matter of cooperation between the light automatic and rifle-grenade weapons. In this respect the infantry is clearly not in the advantageous position that it was in in 1918. The situation appears to need careful consideration. The type of close infantry fighting described in this article seems to be just what is required in open warfare, since it enables our infantry to assist its own advance, without all the disadvantages attendant upon the delays which occur when infantry has to call for the close support of mortars, howitzers or guns.

The three-inch mortar has been adopted as the weapon for close support of an infantry battalion. Will the mortar enable infantry to advance as rapidly as did our infantry at Mont St. Quentin? There are very few mortars, they are heavy and the ammunition also is heavy. No doubt they would be extremely useful, but to expect the mortars to do everything that the rifle grenades can do is asking a great deal of them. Our general war experience provides abundant proof that while the infantry advance is held up and waiting for close support, the enemy is often acting and the situation from our point of view grows worse rapidly. It will generally take time to get the support of the mortars and if on many of these occasions the rifle grenades can clear the way more certainly and speedily, why not use them?

It is over this last two or three hundred yards of the infantry assault that the attack generally loses its impetus and is so often brought to a stop. The reasons for such being the case are not hard to find. As soon as our foremost platoons are in the neighborhood of this distance from their objective, the fire of the supporting weapons begins to slacken because of the masking of the artillery, machine-gun and light automatic fire which is carrying out the supporting rôle. It is just at this time that the difficulty of maintaining coordination between our foremost infantry elements and the supporting guns, howitzers, mortars and machine guns in rear, so that fire may be directed on to the points offering the greatest resistance, is at its very highest peak. More and more of the enemy's machine-gun and rifle posts are no longer under our supporting fire. Machine guns which have been silenced now come to life again. The success of the attack is then in very grave danger, the seriousness of which perhaps can be vividly realized only by those who have actually taken part in such assaults. The platoons become more and more dependent upon their own weapons, there being little else to help them. The platoon weapons then become the vital means by which success can become possible and, since so much depends upon those weapons at this most critical stage, their type and method of employment assume an importance which cannot be stressed too strongly. The great requirement demanded of these weapons is fire-power, especially as the number of men available for the actual assault in the battalion of today is not as great as it was in 1918. In the rifle grenade we have a weapon which produces fire of the very type which the situation demands, i.e. high-angle and high-explosive. The high angle of descent gives deep searching effect against which the provision of head-cover is the only counter-measure, and the H.E. of the Mills grenade is very destructive against *personnel.*

The ability of the infantry to advance against localities defended by machine guns is still a major problem. The deadly power of the machine gun in defense is still the great obstacle to the advance of infantry in the attack. We have not the same weight of artillery in support of our infantry as we had in 1918. Why not give the infantry more rifle grenades and so enable it to get on farther and faster unaided if it can? It is a disadvantage at present that the rifle grenade has not a greater range, but this defect may be improved in time. The rifle grenade is comparatively inexpensive and in skilled hands, used according to the correct tactical method, it is a powerful weapon indispensable to infantry. The provision of transport for the grenades is a real difficulty, but the results which may be obtained from the use of rifle grenades are so important that the issue should not be decided on the point of transport alone.

To sum up, the writer has endeavored to point out that there is a real need for:

(*a*) The recognition of the great possibilities of the rifle grenade as an infantry weapon, especially in attack.

(*b*) More attention to producing a higher standard of training in the firing of the rifle grenade.

(*c*) A recognition of the great results to be obtained from the correct tactical employment of the rifle grenade in the attack, i.e. using its high-angle fire in cooperation with the light automatic.

SENIOR SELECTION BOARD RESULTS

■ The following officers were selected by the Senior Marine Corps Selection Board, of which Major General Charles H. Lyman, USMC, was President, and the report of which was approved by the President on 12 December, 1936:

For promotion to Brigadier General (line):
Colonel William P. Upshur.

For appointment as head of Adjutant and Inspector's Department:
Colonel Calvin B. Matthews.

For promotion to Colonel:
Lt. Col. Maurice E. Shearer.
Lt. Col. Oliver Floyd,
Lt. Col. Harry Schmidt,
Lt. Col. Harry L. Smith.

For promotion to Lieutenant Colonel:
Major Thomas B. Gale,
Major Field Harris,
Major Roy C. Swink,
Major Donald Curtis,
Major Ery M. Spencer,
Major William N. Best,
Major William A. Worton,
Major John W. Thomason, Jr.,
Major Charles T. Brooks,
Major John T. Walker,
Major Oliver P. Smith,
Major Henry D. Linscott,
Major William T. Clement.

The following officers were selected by the Junior Marine Corps Selection Board, of which Colonel William P. Upshur, USMC, was President, and the report of which was approved by the President on February 6, 1937.

Following is the list of Captains selected for promotion to the rank of Major:
Erwin Mehlinger,
Donald Spicer,
Sherman Lloyd Zea,
Frank Percival Snow,
Chesley George Stevens,
Walter William Wensinger,
Lawson Harry McPherson Sanderson,
Jacob Frank Plachta,
Harold Ellett Rosecrans,
Leo Sullivan,
Hayne Davis Boyden
Franklin Garrett Cowie,
Christian Frank Schilt,
Walter Aloysius Wachtler,
William Elmore Maxwell,
Clarence Rodney Wallace,
Ronald Aubry Boone,
William Baynard Onley
James Hershel Strother,
Ivan W. Miller,
Joe Nelson Smith,
Louis Eugene Marie, Jr.
James Stanley Monahan,
John Albert Bemis,
John Crawford McQueen,
Howard Nathaniel Kenyon,
William Wallace Davies,
Vernon Edgar Megee,
Augustus William Cockrell,
James Marcman Smith,
Ernest Edward Linsert,
Orin Hubert Wheeler,
Lewis Albert Hohn,
William Oscar Brice,
Francis Marion Wulbern,
Edwin Allen Pollock,
Randolph McCall Pate,
Lucian Cary Whitaker,
John Curling Donehoo, Jr.,
Raymond Paul Coffman,
James Marshall McHugh,
Rupert Riley Deese,
James Profit Riseley,
Harry Edward Dunkelberger,
Clayton Charles Jerome,
George Joseph O'Shea,
Charles Campbell Brown,
Eugene Hayden Price,
Lyman Gano Miller,
William Montgomery Mitchell,
James Austin Stuart,
Howard Reid Huff,
William Willard Orr,
Gregon Albert Williams,
Evans Fordyce Carlson,
Monroe Samuel Swanson,
Lawrence Raymond Kline,
William Winchester Paca,
Shelton Cornell Zern,
John Edward Curry,
Richard Malcolm Cutts,
Frank Doudet Weir,
Merlin Frederick Schneider,
George Franklin Good, Jr.,
Merrill Barber Twining.

Following is the list of First Lieutenants selected for promotion to the rank of Captain:
Francis Joseph Cunningham,
Bernard Hope Kirk,
Richard Potts Ross, Jr.,
Otho Christopher Ledbetter,
Harry Cox Lang,
Deane Carroll Roberts,
Albert Ferdinand Moe,
James Vincent Bradley, Jr.,
Joseph Howard Berry,
Zebulon Corbin Hopkins,
Wilfred John Huffman,
Orin Kirkpatrick Pressley,
Robert Hugh Williams,
Randall Mamre Victory,
Carson Abel Roberts,
Richard Jacobs McPherson,
John Bunn Hill,
James Raymond Hester,
Chester Robinson Allen,
William Frederick Parks,
William Arthur Willis,

John Stanley Holmberg,
Clarence Joseph O'Donnell,
Paul Dwight Sherman,
John Frederick Stamm,
John Wehle,
James Phillips Berkeley,
William Putnam Battell,
Cornelius Peter Van Ness,
Edson Laurence Lyman,
Lewis Richard Tyler,
Archibald D. Abel,
George Harlon Cloud,
Charles Edward Shepard, Jr.,
Peter Alexander McDonald,
Michael McGinniss Mahoney,
Thomas Brandenburgh Hughes,
Frank Gilbert Wagner, Jr.,
Paul Moret,
Harold W. Bauer,
William Baggarley McKean,
Fred Dale Beans,
Glen Galloway Herndon,
Wallace Martin Greene, Jr.,
Francis Hubert Williams,
Paul Wesley Russell,
William Bassett Steiner,
Frank Mills Reinecke,
John Malcolm Davis,
Walfried Halton Fromhold,
James Taylor Wilbur,
Charles Harold Hayes,
Donald McPherrin Weller,
Samuel Sylvester Yeaton,
Edward Alexander Montgomery,
Edgar Oliver Price,
Robert Edward Hill,
James Michael Daly,
Ronald Dean Salmon,
Russell Lloyd,
Ernest Walter Fry, Jr.,
Wright Carney Taylor,
Marcellus Jones Howard,
August Larson,
Donovan Dorr Sult,
Norman Hussa,
Henry Talmage Elrod,
Robert Lee McKee,
Edward Bruce Carney,
Austin Roger Brunelli,
Lewis Cheatham Hudson, Jr.,
Edmund Burke Games,
Albert James Keller,
Luther Samuel Moore,
Harry Stanley Leon,
Nelson Kenyon Brown,
Charles Reed Jones,
Clifford Henry Shuey,
Wayne Horace Adams,
John Henry Cook, Jr.,
Edward Hanna Forney, Jr.,
John Alexander White,
Samuel Gibbs Taxis,
Edward James Dillon,
Harold Isidor Larson.

DUNLAP

■ The Republic of France paid fitting tribute to the heroic sacrifice of a distinguished officer of the Marine Corps on January 9, 1937, at the French Embassy, when Ambassador André de Laboulaye presented to Mrs. Robert H. Dunlap the decoration of Commander of the Legion of Honor, conferred posthumously upon her husband, who lost his life on May 19, 1931, at Cinq-Mars-la-Pile, France, in his effort to save the life of a French woman, Madame Briant, who had been trapped by a landslide at the Chateau de la Fariniere.

General Dunlap at the time of his death was attached to the American Embassy at Paris, for instruction at the Ecole de Guerre Superieure. When the accident occurred he instantly went to Madame Briant's assistance, accompanied by her husband. While endeavoring to extricate the woman, both men were buried by a further and much heavier fall of debris. French sappers worked frantically to rescue the entombed persons until the following morning, when Madame Briant was recovered alive, protection having been afforded her by General Dunlap's body. There was world wide sympathy for the tragic loss of this outstanding American officer, and notable tribute was paid to him at funeral services conducted in Paris, attended by many notables, including General Pershing, and later during ceremonies conducted at Arlington.

In addition to the Legion of Honor just awarded him, General Dunlap has been also awarded the Carnegie Gold Life-saving Medal, and the posthumous award, by the Congress of the United States, of the Navy Cross.

In further recognition, Secretary of the Navy Claude A. Swanson has honored General Dunlap's memory, by assigning the name "DUNLAP" to the new American destroyer 384, building at the yards of the United Shipbuilding and Dry Dock Corporation, Staten Island, New York.

In presenting the decoration to Mrs. Dunlap, Ambassador de Laboulaye made the following remarks:

"Madame:

It is my moving duty to place in your hands the Cross of Commander of the Legion of Honor that the French Government has conferred posthumously on your husband, General Dunlap.

Like all human testimonials, this distinction, great as it may be, expresses only incompletely the feeling of boundless admiration and infinite gratitude with which all France was stirred by General Dunlap's heroic act of the 19th of May 1931.

He had risked the dangers of battle only to find death in the midst of peace in a gentle, smiling countryside, in saving the life of a woman of France, threatened by a landslide.

Is there finer example of calm courage and generous sacrifice?

May the Cross of the Brave, which is so rightly awarded him, comfort your sorrow, bring you the certitude that the memory of General Dunlap is forever inscribed in the heart of the French people, and make you, if possible, still more proud to bear his name."

HOW CAN MOTORIZED AND MECHANIZED FORCES BE BEST USED IN COAST DEFENSE

MAJOR R. H. JESCHKE, U.S.M.C.

■ I began thinking seriously about this subject over a year ago but could find little or no available historical data that was of any help. After much general reading, including General Fuller, Captain Liddell Hart, some German authors and others, a radio address that I happened to hear while listening for the daily news broadcast, turned me to periodicals and the daily press.

Our First Army maneuvers had just been completed. Hanson W. Baldwin had covered it for the New York *Times,* so I wrote for his articles that had appeared each day during that maneuver. While this maneuver was not dealing with Coast Defense, it used motor transportation extensively and a study of it will prove profitable to anyone interested in modern troop movements by motor and gave me a great deal of valuable data. From the sources outlined above I worked out a general plan for the use of motorized and mechanized forces in Coast Defense.

Coast Defense includes, in its broadest sense, all tactical dispositions and operations, having as their objectives the effective meeting and blocking of any hostile attack that may be made or attempted on the coast of the country to be defended.

In the United States the principal major elements that enter into our Coast Defense are:

a. The Naval Forces.
b. The Harbor Defenses.
c. The Mobile Forces of the Army.

In this paper I will limit, as far as practicable, my discussion to the highly mobile, (motorized and mechanized), forces of the Army and try to show how they may be used in Coast Defense.

The subject, "How Can Motorized and Mechanized Forces Be Used in Coast Defense," involves a study of the use of a motorized and mechanized force of all arms and services, operating independently, or in conjunction with other forces. This may further be divided into two general phases:

First—A strategical and maneuver phase.
Second—A tactical or phase of combat.

I will consider principally, the strategical and maneuver phase, for once a motorized and mechanized force is placed in close contact with the enemy, the handling of it will differ little, if any, from the handling of a similar force in contact under like conditions of weather and terrain.

The combat phase can only be intelligently dealt with when one knows the coast line to be defended, the strength and composition of the forces at his disposal, and the probable strength and composition of the unit or units attempting the landing, or landings, and will vary greatly in every case and in every theater.

However, the strategical and maneuver phase, or as General Forrest so aptly put it, "Getting there fustest with the mostest men," and if by "Mostest men" we mean a force of all arms capable of repelling the invader at any point, or points where he may attempt to secure a beach head, is of general application and of vital interest to all charged with Coast Defense.

Since in motorized and mechanized forces this involves the movement of large units by motors, let us now look at what has been done in the past, so that we can get some idea as to the speed with which these movements can be made and the distances that these highly mobile forces can cover in a day or two.

The first historical example that I could find was the use made by General Gallieni on the night of 7-8 September, 1914, of six hundred (600) Paris taxicabs to move a force of six thousand (6,000) men forty miles and put them in position so that they attacked on the morning of 8 September, 1914. These cabs gathered from the streets of Paris by the police in the late afternoon of 7 September, made two (2) trips during the night and were able to place six thousand (6,000) men on the line forty (40) miles away before daylight on 8 September, 1914.

This was twenty-two years ago and we all are familiar with the great strides that have been made in perfecting the automobile and truck since that time. Recently another large scale use of taxicabs, "The five-man troop carriers," was made by our First Army during its August, 1935, maneuvers. In this maneuver, Regular Army (18th Infantry), New Jersey and New York National Guard units used taxicabs to carry troops and equipment to the concentration at Pine Camp, New York, from there to the various fronts, and finally home after the maneuver. During the night march from their home stations to Pine Camp these taxicabs, each loaded with five men and equipment, averaged from twenty-five (25) to thirty (30) miles per hour, including all halts.

In August, 1933, the 131st Field Artillery (truck drawn) marched two hundred eighty-five (285) miles in eleven (11) hours elapsed time on the 4th and one hundred and seventy-six (176) miles in seven (7) hours elapsed time on the 5th.

The British maneuvers of 1930-31 showed that troops could be moved by truck farther and with less fatigue in one hour than they could march in a day and that this method of transportation enables a commander to shift his force rapidly and place it when and where he may want it, in hours, instead of in days.

Our First Army maneuvers in August, 1935, again brought out the increased mobility of motorized units. On August 20th, the 1st Division was moved thirty (30) miles in one and one-half (1½) hours, including loading and unloading of troops and all equipment. In this movement the troops went by truck and the artillery was truck drawn and all units carried full field equipment. This was just one of the many moves made by motor during this maneuver and the comments, after the maneuver, of the following officers are interesting and instructive.

The late Secretary of War Dern:

"The days of long and exhausting marches for foot soldiers seem definitely over, especially in a country served by an expanding network of excellent highways. For the first time in peace time history we have made the fullest possible use of motor transportation in concentrating troops for field training. The results have been highly gratifying. In these maneuvers as never before

the Army is utilizing modern communication methods that have reached such a high state of development in recent years."

General Dennis Nolan:

"The 1st Division, Regular Army, over five thousand (5,000) officers and men equipped for combat and carrying with them all their weapons and supplies which would be necessary for them to have in actual warfare, moved in a total elapsed time of about three (3) hours, a distance that would have taken two (2) days to move by marching and the use of animal transport."

General Fox Conner:

"The concentration has developed clearly the strategical value of motorization * * * * *. Motor convoys arrived on time without a hitch and that one from Maine traveled a distance of seven hundred and forty-two (742) miles, a distance equal to the length of the Western Front during the World War with only two (2) night bivouacs and only one flat tire."

General Lucius R. Holbrook:

"A day's march of mechanized cavalry and motorized infantry may now well be one hundred (100) or two hundred (200) miles or more."

General von Schwarte, in the August, 1934, *Wehr and Waffen* says: "Only mechanized forces can win back the mobility necessary for a decision."

From a consideration of the above we can readily see that motorized or mechanized divisions are within mutually supporting distance of each other when separated by as much as two hundred (200) miles of motor roads, (a day's march), and that a commander who has his local reserves within fifty (50) miles can reasonably expect to have it arrive at the scene of action in about three hours.

A general principle of Landing Operations on a scale large enough to form the basis of an invasion is that, first it must be made within striking distance of a harbor where suitable facilities exist, or can be improvised, for unloading artillery and other heavy materials and supplies of war. And second, there also should be communications leading from this place toward an area that is vital to the defending country, either commercially, economically, or politically.

Taking the coast line of the United States, (merely as an example), a study of the map will show that the following areas along our coast line meet in general the above requirements:

a. Portland, Maine, to New Jersey, both inclusive.
b. Delaware and Chesapeake Bays, both inclusive.
c. The Charleston-Savannah area.
d. Mobile Bay to Galveston, Texas, both inclusive.
e. The San Diego-Los Angeles area.
f. The San Francisco Bay area.
g. The Columbia River-Puget Sound area.

With these areas in mind, let us next look at a road map of the United States and study the road net. We will then see that motorized and mechanized General Reserves, placed in the vicinity of the following cities, can furnish support to the local Coast Defense Forces in all the vital areas listed above.

a. Hartford, Connecticut.
b. Wilmington, Delaware.
c. Petersburg, Virginia.
d. Walterboro, South Carolina.
e. Mobile, Alabama.
f. Lake St. Charles, Louisiana.
g. Riverside, California.
h. Oakland, California.
i. Tacoma, Washington.

Motorized and mechanized General Reserves so placed are within one (1) day's march of all points along the coast of the critical areas listed and can render as prompt and as effective support as non-motorized or non-mechanized units could if placed every twenty-five (25) miles along the coast line to be defended. This alone enables motorization and mechanization to effect a great saving in troops necessary for Coast Defense in the above described areas.

I used the coast line of the United States merely as an example and similar reasoning and map study will show that with slight modifications this plan can be applied to the coast line of any country possessing motor roads and if applied will result in great economy of troops without any loss of efficiency of the defense.

In addition to allowing one to place General Reserves as suggested above we must not lose sight of the fact that these forces are highly mobile and from the examples quoted early in this paper we can see that they are capable of moving two hundred (200) or more miles a day, which gives them a mobility practically equal to the ships now in use as transports by the nations of the world today and only a little less than that of the fastest passenger ships now in service.

This high mobility, if used in connection with efficient intelligence and reconnaissance services of the air, radio and Navy, will enable a commander to maneuver his force ashore as the transport group commander maneuvers his ships at sea so that he will be able to parallel any movement up or down the coast that the troop ships may make and so meet the first attempted landing at the time and place its leading waves hit the beach and block it before it is able to get well under way.

The next most important use of motorized and mechanized forces in Coast Defense as I see it, is their use as Sector and Local Reserves. Sector Reserves placed in the center of a fifty mile front and from ten to twenty miles in rear of the coast line, can reasonably be expected to reach any point on that coast line within three hours, including loading and unloading time, (see movement of 1st Division earlier in this paper). By the same reasoning one can see that motorized and mechanized Local Reserves can support effectively a much longer line of beach than can troops limited to foot and animal transportation.

When roads are available or the beaches suitable, a further economy in personnel can be effected by using cars and half-track vehicles instead of foot and horse troops for beach patrols. Local conditions will dictate to what extent cars may be used for this and an actual beach reconnaissance will have to be made in each case.

Conclusions. After careful consideration I submit the following as an outline for the use of motorized and mechanized forces in Coast Defense:

First, carefully consider the coast line to be defended and decide the area or areas where hostile landings to be successful must be made.

Then study the beaches in that area, or in those areas, that are suitable, or *possible* for landings and on those beaches install beach defenses of wire and other obstacles covering same with machine gun fire and lightly occupy that line, or those lines.

Next make the greatest possible use of cars and half-track vehicles wherever practicable to patrol the coast line. These cars should, if possible, be radio equipped.

Next, if the terrain and road net are suitable, place the bulk of your forces in the following three general echelons:

a. Local Reserves of all arms, (motorized).

b. Strong Sector Reserves of all arms, (motorized and mechanized), located on roads ten (10) to twenty (20) miles in rear of the coast line and about fifty miles apart all along the possible landing beaches.

c. A strong General Reserve, (motorized and mechanized), located centrally in rear of each four hundred (400) or so miles of coast line where landings are possible.

Now in cooperation with the Navy, Air Service, Radio Service and Shore Lookouts and Patrols, find out as soon as possible where the bulk of the hostile troop ships are and once located, use the mobility of your motorized and mechanized forces to meet them at any point they may move to and attempt to land.

I think that there is a real need for a completely motorized force for efficient and economical coast defense. Part of this force should, if practicable, be mechanized so that it may rapidly bring its enormous fire power to bear on any threatened point, first on the small boats as they come into the beach and then on the hostile troops once they hit the beach, but this brings up the question—will a mechanized force be available and if available, will it be large enough to do the job? However desirable it might be, I am afraid that the answer is *NO*, at least during the early part of any war.

In the years 1934 and 1935 there were registered in the United States the following number of motor vehicles:

	In 1934	In 1935
Passenger cars	21,524,068	22,565,347
Trucks	3,409,335	3,655,707
Motor busses	113,130	106,277
Total	25,046,533	26,327,329

This gives us available, in this country, more than enough motor transportation to move every man, woman and child by motor at the same time. This, coupled with the enormous capacity of our automotive factories, (in 1929 they made 4,794,898 passenger cars and 826,811 motor trucks, or a total of 5,621,709 cars and trucks), leads me to believe that motorization in time of an emergency, is not only desirable, but practicable and plans should be drawn up for the speedy effective use of this means of getting high mobility, not only for Coast Defense Troops, but for all branches of our National Defense. My answer, therefore, to the question, "Is there a need for a Mechanized Force for Coast Defense?" is yes, but I believe that we will never have sufficient mechanized forces available for this duty. However, if we substitute the word MOTORIZED for the word MECHANIZED in the above question, my answer is that it is not only desirable, but practicable and should be planned for without delay.

COMMENTS ON CAPTAIN ANTON FRHR. v. BECHTOLSHEIM'S LECTURES

Captain Arthur Snyder, U.S.M.C.R.

Author's Foreword

■ I am indebted to Colonel Richard C. Burleson, Field Artillery, U.S.A., for making it possible for me to study the above lectures. I am grateful to him and Colonel William A. Ganoe, Infantry, U.S.A., for the patience and kindness that both these officers showed in assisting me in my efforts to compile these comments.

The lecturer is a field artilleryman, and inasmuch as he was speaking at The Field Artillery School, Fort Sill, Oklahoma, it is quite natural that the bulk of his lectures was along artillery lines. However, this does not mean to indicate that they were purely of an artillery nature.

Captain von Bechtolsheim loses no time in showing himself in the light of a well grounded officer, for at the start he points out the importance of planning tactics suitable for the organization at hand. He is insistent at all times in emphasizing that vital point, that all branches of the service are auxiliary to the Queen of the Battlefield, the Infantry.

He cites for the purpose of example some of the engagements he was in during the World War, but his lectures are singularly free from personal experiences. It is only toward the end of the series that one is able to determine his age and rank during the war. He then speaks of himself as a liaison non-commissioned officer at Vimy Ridge, 1916, and that he was nineteen years of age. He delivered this series of lectures at the end of 1931 and beginning of 1932, so it is likely that the captain is now a field officer, for the German Army has increased vastly in this time.

The lecturer paid a fine tribute to our John Pelham, of Jeb Stuart's Cavalry, and in turn I wish to pay tribute to a gallant foe who fought their individual guns against our tanks in the last war.

The first lecture of the series given by Captain von Bechtolsheim at Fort Sill, 1931, is a general outline of the then existing organization of the German Army. Reading this five years later it is difficult to suppress a smile when we are constantly reminded by the lecturer that the organization was more or less a crazy quilt due to the requirements of the Versailles Treaty. On these grounds he speaks of his army having had no heavy artillery, no anti-aircraft artillery, no infantry cannon, no tanks, no armored cars, and no air troops. However, he gives us to understand that the German General Staff had planned its tactics as far as was possible to cope with the lopsided organization required by the Allies. Lopsided it was true—18 cavalry regiments to only 21 infantry regiments, if we are to accept Captain von Bechtolsheim's statement.

This is not the place to discuss whether or not the German Army in 1931 was such a crazy picture. We are interested in the fact that with the reduction in German armaments the General Staff laid a still greater emphasis on Mobility and Surprise—two principles of war too often neglected.

It is claimed that necessity is the mother of invention. There is no invention in this case, but it seems self-evident that the German Staff found the best tactics to offset the weaknesses in its army organization. Herein is shown the importance of planning tactics that are most effective for the organization at hand.

In laying greater emphasis on mobility and surprise it most likely was not so much of a task in the German Army as might be experienced in other armies. We know of the swiftness of the blows of Germany in 1870, and we also know that in early 1914 the same swiftness of attack came altogether too near to reaching its goal. It might be said that for generations the German Army has been indoctrinated with the spirit of Mobility; and in 1931 we find Germany preaching Mobility as being its supreme tactical principle. We now know that Germany has overcome the weaknesses in her army organization, but it is evident from Captain von Bechtolsheim's lectures that his army will continue to hold Mobility as its cardinal tactical principle, for he says: "We believe that movement is the element of war and only by mobile warfare can any decisive results be gained." He goes on to say that mobility exists down to the organizations of the infantry squad. He further says that his army believes that the division, not the army corps, is the strategic unit. It is obvious that this is based on the Principle of Mobility, and is responsible for carrying this principle on down to the infantry squad.

In spite of our laying great stress at Leavenworth on breaking a division into brigades in order to gain mobility, I doubt that we practice the principle to the extent that it is practiced by the Germans. Our neglect of the practice is most likely indirectly responsible for our lack of success with the accompanying gun, and the roving gun. In order to achieve success with smaller units it is imperative to have Mobility at its peak. To obtain this, Mobility must be indoctrinated in the whole service —as Captain von Bechtolsheim says, from the General Staff to the infantry squad.

We cannot hope to attain a high degree of mobility throughout our own army until we follow the example of the Germans of having small staffs, which are conducive to quick decisions. We must also get away from stereotyped rules, which do not encourage independence of command. A lack of independence of command results in a lack of mobility.

A fine lesson along these lines is Stonewall Jackson's Valley Campaign. He achieved great success with a small army against larger forces. He believed in nothing that resembled councils of war. He struck like a thunderbolt, and his men were known as foot cavalrymen. He was a marvelous leader, but with all his leadership it is most doubtful that he could have made the wonderful marches that he did if he had been hampered by a large staff, or if he had not had independence of command. General Lee held Jackson to no stereotyped rules, and we find brilliancy of action in the Valley Campaign, based upon the true principles of war.

Military men are constantly faced with the curse of becoming submerged in stereotyped rules and regulations. It is only the strong that resist the curse. Unfortunately, we hear altogether too often: "Well, that's regulation." The officer speaking means that it is a closed issue for him, regardless of the merits of the case. Or again we hear: "It might be for the good of the service, but I'm not going to put my neck out." Both instances are sad for they result from a lack of initiative and courage. The culprits are not entirely to blame. In an organization where strict discipline is essential there will exist a tendency to the stereotyped, unless the discipline is obtained through proper leadership.

The strong officer takes the view: "Well, it is contrary to regulations, but I believe that it is for the good of the service if that particular regulation is changed. I am going to report the case to my commander and see what can be done about the matter." The particular recommendation may fall short of being successful, whether or not it is deserving of success. Assuming that it is a meritorious case, and it has met with failure; not only has the officer done his duty, but maybe he has laid the foundation for an improvement in the service.

On the other hand, let us assume that the case is not worthy of success—the officer has still done his duty, although his judgment is at fault. In bringing the matter to the attention of his superiors the way is open to correct this officer's wrong interpretation of the case, and thereby the service has gained by having a better informed officer.

". . . . . The initiative of the subordinate leaders . . . . . multiplies the strength of an army."*

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It may seem that I have digressed from Captain von Bechtolsheim's lectures. I feel that this is not the case because of the stress that the Captain laid on independence of command, and freedom from stereotyped rules. He ends his first lecture with the following: "'No rules or forms of combat.' Every army runs the danger in peace of becoming enmeshed in rules. That is the greatest danger. We must, therefore, act in peace according to the principle: 'Let us kill all stereotyped things, otherwise they will kill us.'"

This in no way means that the German Army is lacking in the principles of combat. They realize that war is a constant changing of situations, and therefore, their supreme tactical principle is Mobility. Their general plan of tactics is the movement of units by bounds, i.e., as one unit takes up the fire, another unit moves forward; or the reverse if it is withdrawing troops from action. If the situation so demands it they are prepared through their training to break up their battalions to fight as batteries and companies, and on down to individual guns and squads. We train our infantry to act as independent squads for reconnoitering, and also for attacking machine gun nests; but we have been reluctant to break up our artillery in small units. Reference is made to this heretofore, but I think it is well to add that most armies have gone too far in emphasizing the importance of "saving the guns." The Germans are inclined to push their guns well forward in order that their infantry can reach its objective more quickly and with fewer casualties. By keeping our artillery in larger units, and better secured, we may give as effective fire protection, but we cannot so readily follow-up the advance.

I will not attempt to go into all the details of a German field artillery battery, but will attempt to point out the facts that seem to be of most importance. In a German battery the caissons are not a part of a gun section, as in our army. They form an ammunition echelon, and usually march by themselves in rear of the gun echelon. This permits the more rapid movement of guns into action.

A German battery is equipped to carry more ammunition per gun than our field artillery. Captain von Bechtolsheim refers to the war having taught them that it is

*Henderson, in writing of the Franco-Prussian War.

better to have fewer tubes and more ammunition than vice versa.

The Germans have four guns and eight caissons to a battery, and in addition a battalion ammunition train. There is no difference in organization between the 77-mm gun battery and the 105-mm howitzer battery. I understand that there has been a change in the German artillery organization since the lectures were delivered, but at that time a battalion consisted of two gun batteries and one howitzer battery, and three battalions made a regiment.

Shrapnel was entirely abolished by the Germans immediately after the war. The reasons for this as cited by the lecturer are: ineffectiveness as to material and moral damage, modern infantry targets so dispersed in width and depth that shrapnel bursts have limited effect, and the inability to regulate the height of bursts. The last is of utmost importance in situations that do not permit ground observation. These are the tactical reasons, and I find that some of our most ardent old shrapnel men are inclined to agree on these points. I venture to say that if we were to go to war today shrapnel would be used only in a very limited way, if at all.

Other reasons for the discard of shrapnel by the Germans are: the expense and difficulty in manufacturing the fuses, that the fuses are ill adapted to weather and rough handling, and that it takes a good deal of time to train men to fire shrapnel effectively. However, the time shell has been retained "for use against targets behind perpendicular cover (for example, infantry in trenches or behind a steep ravine.)"

The reasons laid down in the preceding paragraph for the discard of shrapnel are not altogether consistent with the retention of the time shell. In speaking of the latter type of ammunition the Captain says that this shell can also be employed in anti-aircraft fire. Undoubtedly the lecturer's thoughts in this instance were to the day when no disguise of his army's weapons would be necessary. When his lectures touched on anti-aircraft fire he was obliged to resort to theories and ideas of his army. We now know that these theories and ideas have become realities.

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The reader should not get the impression that the German plan of tactics is based upon theory. Their plan is largely a result of their experiences in the World War. The element of movement brought them great success on the Eastern Front, and nearly carried them to victory on the Western Front. Giving all praise to Marshal Joffre's marvelous tactics, I still believe that the Germans might have been more successful in 1914 on the Marne if their General Staff had not "bogged down."

So we find in the modern German Army a strong antipathy for large staffs. We also find great emphasis on the Principles of Simplicity of Movement, and equally so on Independence of Command.

We Americans can well take to heart the question of large staffs, for it seems to be inherent in our people to think that in order to accomplish success we must have expansive facilities. Any of us who have had to sit in committee and conference meetings are aware of this. Everyone wants to say something, and immediately quick, decisive action is prevented. So it is with large staffs, but the evil is more far reaching for it jeopardizes the opportunity of Simplicity of Movement, and curtails Independence of Command. Under the best of conditions the Principle of Simplicity of Movement is always in danger of being violated, because most tactical problems have several solutions. An individual can very easily become involved in these various solutions, and do the wrong thing. The chances of his becoming involved multiply when there are too many opinions expressed. This does not mean that there should not be adequate assistance on every staff, but I think we will all agree that it is better to err on too small a staff than vice versa.

It is claimed that Marshal Foch had an excellent staff, and that in comparison with most staffs it was small. Here we find orders emanating from his staff that closely hew to the lines of Simplicity of Movement.

Every soldier should bear in mind the words of General von Clausewitz: "In warfare only the simple thing is possible, but it is difficult to do the simple thing."

Napoleon said in his 65th Maxim: "After too much talk, uncertainty, difficulty and consultation, what has happened in all centuries, when pursuing a like line, will again take place; i.e., that one ends in taking the worst course, which almost always in war is the most pusillanimous—or, if you will, the most prudent. True wisdom for a general lies in energy and resolution."

No soldier is worthy of the title unless he is energetic and resolute. Captain von Bechtolsheim says: "Our principle is therefore: to train every man as a leader to the limit of his abilities—one as a squad leader, another as a platoon leader, and still another as a company commander. At first glance, this sounds almost impossible. It is really not so bad as it sounds, for every soldier is a human being, and every human being can think—he needs only to learn how to think. To learn to think requires only experience."

The last is most important! Experience—the small amount of field experience our forces obtain is alarming! The fault cannot be laid at the feet of our officers—they are strong for combat training. The blame rightfully belongs to the American people, whose ignorance of National Defense blinds them to the humane necessity of having their armed forces adequately prepared.

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Our Reserves are a decided step forward, but unfortunately their training is too much along theoretical lines than actual contact with troops. This weakness will not be felt so much by men who have had experience with troops, but the young men who have not had this experience are decidedly handicapped. It is difficult to understand how skill in the handling of troops can be obtained in the lecture room, or through correspondence courses. The technique, yes, but knowledge of its application is essential.

Our Fleet Marine Corps Reserve and the National Guard are better situated along these lines, but our dilemma does not end with our Reserves. The enlisted personnel of our land forces is so small that our officers have only a limited tour of duty with troops. Officers and men alike are constantly being used for C.C.C. work, and other duties which are foreign to combat training.

Compare our training with that of the Germans. I do not mean to indicate that we should be a militaristic nation, but whether our forces are large or small they should be properly trained.

A German infantry regiment has a fourth battalion, which is purely a training unit; and each artillery regiment has an extra battery for the same purpose. Irrespective of whether the recruit is to become an infantryman or an artilleryman, he is trained in both arms. Anyone, acknowledging the importance of close cooperation

of the two arms, is immediately impressed with the benefit of this system.

Captain von Bechtolsheim admits that the training of the recruit is a real problem because the man must not be taught rules, but how to think. Little time is spent on close order drill, because they want to devote as much time as possible to teaching the pupil what he should do in combat. Nearly every day the men are taken out to a terrain for tactical problems. Here, as in all problems, the opportunity is offered to learn how to think. The problem used on the field is later rehearsed on a sand table. This affords an excellent means for learning to read maps. The Captain says that all men must be proficient in map reading. Practically no fatigue work is done by the soldiers. This is done by civilians, which of course permits more time for combat training.

Company commanders are allowed a free hand in the training of their men. Exercises by companies, battalions, and regiments are frequently held. Every summer the regiment is trained on a terrain that is unknown to them, and every fall large maneuvers are held in a territory that is unknown even to the higher commanders.

A candidate for a commission was required to have university qualifications. He was trained for three and a half years in combat units from the grade of private to master sergeant. He was also sent to the service school of his particular arm. This course was for nine months, and the candidate took two of these courses with his three and one-half years' training. Those who did not meet the requirements of an officer left the service, but were undoubtedly subject to military call. Since the lectures were delivered very likely changes have been made in the details of training, but I believe the general plan is the same. As we look it over in a broad way we cannot but be envious.

An infantry or artillery captain who receives a recruit with a working knowledge of the other arm is indeed fortunate. He is equally fortunate in being able to instruct his soldiers in tactical problems practically every day. Engaging in regimental problems on unknown fields, followed by larger maneuvers each year, certainly warms the cockles of any soldier's heart.

However, we can find some details of training in the German system that do not altogether square with our ideas. We will admit that probably, we spend too much time on close order drill, and not enough on extended order; but one to two hours weekly on close order drill does not seem sufficient to secure discipline. The Captain says that they obtain it on marches and in daily routine. This may be so in handling Germans, but I do not believe it would be so in handling Americans. It is very likely that a German comes into the ranks a better disciplined man than our raw recruits. It should also be borne in mind that the spirit of the German Army extends to the very hearth stone of the peasant cottage, because of compulsory service. A very large percentage of our people never think of our fighting forces "until the band begins to play." So what is adequate for the German recruit is not necessarily so for the American.

There is no doubt that fatigue duty can also be carried to a detrimental extreme. I believe we are guilty of this when we require our line soldiers to perform fatigue duty which is not strictly of a military nature. It is not merely imposing upon the time that should be spent in combat training, but it is not befitting the profession of arms. When a soldier enlists he contracts to perform the duties of a soldier—be it kitchen police, stable police, etc., but he does not contract to do the work of a laborer. A soldier well led will cheerfully do his share of dirty work that is necessary to be done around a post or camp. To require more is dangerous to the morale of the service. I have no doubt that this question is most pertinent in regard to some men "going over the hill," and in regard to some good soldiers not reenlisting.

The wisdom of training men to command the next higher unit, as is done in Germany, is apparent. It has an excellent effect upon morale, besides teaching a soldier not only the duties of his own unit but that of the next higher unit. It is an excellent method of producing noncommissioned officers, and commissioned officers for higher rank.

The training of candidates for commissions certainly seems to be sound. I think it was General Pétain who, though loud in his praise of our Military Academy, criticized its curriculum for not being more specifically along the lines pertaining to the duties of an army officer.

I notice that the lecturer says that a candidate for a commission must have university qualifications. He does not say, that the candidate must be a college graduate. If this is correct, it is as it should be, for it is wrong to sacrifice officer material merely because an individual has not had the opportunity to go through college.

It is very praiseworthy that our Army and Navy provide the opportunity to enlisted men to go to West Point and Annapolis. It is to be hoped that the day is not distant when again in our forces it will be found necessary to commission men from the ranks. This is a fine stimulus for obtaining enlisted men of a higher grade, and we all know the moral effect of Napoleon's words: "Every soldier carries in his knapsack the baton of a French marshal."

* * * * *

Throughout the lectures we are constantly reminded of the absolute necessity of training for and the maintenance of close cooperation between the infantry and the artillery. General von Boetticher, the German Military Attache at Washington, was equally emphatic on this point in his speech at a Saint Barbara's Day Dinner in Boston. The American Army, and all modern armies, are in accord with this policy; but the question is: Are we doing all that is necessary to establish firmly this cooperation in our forces?

The artillery that is to support a given infantry regiment should be constantly trained with that regiment. This cannot be accomplished by having infantry posts and artillery posts that are widely separated. It can be done with motorization where the posts are within a reasonable proximity to each other.

I am aware that the matter of training artillery with infantry is taken care of "on paper" in our different corps areas, but I am referring to the infantry and artillery units of our present active service.

The isolated infantry post was all right in the days of our Indian warfare, but except for rare cases, it has no place in modern times. Some of our military posts, at which are stationed only infantry, are separated by hundreds of miles from the nearest artillery unit. This is certainly not conducive to the training for coordination between the two arms. The association of the personnel is in itself a factor in obtaining the desirable cooperation. Both General von Boetticher and the lecturer spoke on the merits of the officers of the two arms messing together, so that a more thorough understanding and sympathy might be obtained. I think that the average infantry and artillery officer, who saw combat service in

the last war, will admit that there was not the desired understanding and appreciation of the problems and difficulties of the two arms. Too often an artillerist considered that the doughboy had become a scavenger of artillery fire, and in turn the infantryman thought he was doing all the work, and not being given the proper support. The same will be true again, if we do not take steps to weld the two arms into a close-knit team.

* * * * *

It may be noted that little has been said about motorization in the lectures. Of course we know that no tanks nor armored cars were allowed under the Versailles Treaty. It would have been embarrassing for the lecturer to have discussed mechanized forces. We now know that a large part of the German artillery is motorized and that the whole army is very up-to-date. It is readily seen that mechanized forces dovetail very nicely with the German ideas on the element of movement. In fact, their disbelief in stereotyped rules has likely made the adoption that much easier.

I believe that we will not find the task of adjusting ourselves to the increased tempo of movement, brought about through motorization, as easy as the Germans will, because our rules and regulations do not afford the necessary flexibility. The same could have been said about the old German Army, for we know that early in the World War this army did not readily adjust itself to taking advantage of the increased range of their modern guns.

It was demonstrated at the Pine Camp Maneuvers, 1935, that although we can now move troops with an unheard of degree of rapidity, we have not learned to think in terms of such speed. One result that I heard about was an artillery unit, which should have been in action, but was piled up on a road, which was undoubtedly choked with troops.

The Simplicity of Command, which General MacArthur inferred in his Report of the Chief of Staff, might well have prevented the above situation. Similar situations have caused disaster in war.

In order that the reader may not consider me to be too harsh a critic, I give the following from General MacArthur's Report:

"There must be a complete restudy and analysis of existing networks of command. Every moment consumed in initiating a movement is equally valuable with those required for the movement itself. Through a thorough overhaul of current methods, possibly even to the extent of eliminating one or more of the echelons of command they have heretofore obtained in our army, further possibilities may be discovered for saving time and promoting control and efficiency."

* * * * *

Captain von Bechtolsheim used in his lectures several different situations that occurred in the World War, for the purpose of tactical examples. They are interesting, and admirably handled by the lecturer. Time does not permit me to deal with all of them here, except the following one which has a considerable bearing on the ideas I have endeavored to convey to the reader.

We usually think of the accompanying gun as an offensive weapon, but let us take an example of it in a defensive role. On 22 July, 1917, the Russians attacked with superior forces the German position in the vicinity of Wilna, on the Krewo Front. A little in the rear of the German First Battle Position was a large strongpoint, known as "Malotki Redoubt." About half way between this and the Second Battle Position was a large wooded ridge called "Tomassowka Ridge." The artillery O. P. was located on this ridge.

In case of need it had been deemed advisable to throw forward individual guns in order to strengthen the infantry resistance, and the necessary reconnaissance had been completed.

The Russians were successful in carrying part of the First Battle Position, and the important strongpoint, "Malotki Redoubt." "The wireline went out, and visual signalling was impossible on account of the woods." However, the commander of the 3rd Battery, 101st F. A., which was the most advanced battery, saw from his observation post the success of the Russians. He hurried to his gun positions and found that one of his three guns had been destroyed, and that infantry was "dribbling back toward his battery." He, himself, immediately took one gun forward to Tomassowka Ridge, and opened fire on "Malotki Redoubt." "This was done in full view of the Russian O. P., so the enemy's artillery fire soon became unbearable." He "fled forward," unlimbering his piece in his own front line, 150 yards from the Russians. The gun, its gallant commander and men were greeted with cheers from their infantry, who then forgot about retreating.

Three rounds from the field piece silenced a machine gun, the infantry's morale was saved, and the Russian advance was stopped. It was so definitely stopped that later in the day "Malotki Redoubt" was recaptured.

The purpose of citing this interesting and brave action is not merely to convey the merits of the accompanying gun. I use it also to convey the importance of having artillery as well advanced as is appropriate to the existing situation. If the German artillery had not been well advanced at Krewo, the above incident could have never taken place. A machine gun can be most important as an auxiliary weapon, but it does not create the moral effect, which is also essential when troops show signs of becoming demoralized.

It is obvious that with artillery well forward infantry can reach its objective more readily, and more stoutly resist the attack. The element of distance alone is no guarantee for "saving the guns," for the difference is very slight between "infantry dribbling back" and infantry falling back in a rout.

It is equally obvious that if we are to push our artillery well forward and achieve the best results, we must grant to the commanders an independence of command. The free use of one's initiative, ability, and self-reliance will be as necessary as the virtues of devotion to duty and courage.

I agree with the German Captain that during the war "the gun advancing with and ahead of the infantry was a reality." This fact should not be forgotten. Despite the products of a machine age, we must bear in mind that it is morale that wins battles.

* * * * *

A good deal has been said about the Germans' splitting their commands into smaller units. This does not mean that they prefer to fire their artillery by platoons instead of by batteries, nor to isolate batteries instead of keeping them together within the battalion. They are as anxious as we are to keep their larger units intact, and thereby build up a greater concentration of fire power. However, they take the stand that combat conditions frequently create a demand for the smaller units, and therefore, they plan and train their Army to function as the situation in the theater of operations may present itself.

This is a sound doctrine, and because of its soundness it demands no more than the art of war itself demands, i.e., a flexibility that meets the constant changing of events within the theater of operations.

I am confident that we want the same flexibility in our forces, but I think we cannot set claim to having it. Without it we cannot train our commanders so that they will have the necessary flexibility of thought to cope with the ever changing demands of the battlefield. In order to accomplish this it is necessary to encourage the independence of command down to the smaller units, and in order to provide this encouragement it will be found necessary to scrap those rules and regulations that prohibit constructive thought and deed.

It is said that our Army and Navy Departments are conservative. However, we have produced men whose accomplishments wrought changes that have been for the inestimable good of our forces. Winfield Scott, Emory Upton, William S. Sims, and John A. Lejeune are vivid characters in our military and naval history, because of the infinite value of their work within the service and for the service. We must produce men like these, or expect a rude awakening.

It took the Franco-Prussian War to make France change her military policy, and it took a greater defeat to establish in the German Army a flexibility that is demanded by the art of war. God grant that the United States will not be obliged to pay such a cost.

RESERVE AFFAIRS

The following changes have been made in the Marine Corps Reserve since the last issue of the GAZETTE:

APPOINTMENTS:

From July 1, 1936:
2d Lieut. Thomas C. Kerrigan,
2d Lieut. Charles H. Asher,
2d Lieut. Dow L. Nelson.
From 23 October, 1936:
1st Lieut. William D. Harden.
From 30 October, 1936:
1st Lieut. Curtis E. Smith, Jr.,
1st Lieut. Chas. D. Sylvester,
1st Lieut. Aquila J. Dyess,
2nd Lieut. John S. Messer.
From 5 November, 1936:
1st Lieut. Jacob G. Goldberg.
From 6 November, 1936:
Captain Nicholas J. Busch,
1st Lieut. Clarence F. Terry,
1st Lieut. Joseph T. Cain,
2nd Lieut. Walter S. McIlhenny,
2nd Lieut. William A. Simpson,
2nd Lieut. William O. Wall, Jr.,
2nd Lieut. Thomas H. Stafford,
2nd Lieut. Harry C. Stefani.
From 13 November, 1936:
Lieut.-Colonel James Roosevelt.
From 20 November, 1936:
Major James McB. Sellers,
Captain Walter W. Barr,
1st Lieut. Melvin M. Smith,
2nd Lieut. John P. McGuinness,
2nd Lieut. Frank C. Bevington.
From 25 November, 1936:
1st Lieut. Henderson A. Melville,
2nd Lieut. Thomas E. Gurnett.
From 15 December, 1936:
Captain Jerome E. McGuire,
1st Lieut. Claude W. Stahl,
1st Lieut. Alexander R. Tisdale,
2nd Lieut. Mark K. Neville.
From 5 January, 1937:
Captain George M. Searle,
1st Lieut. Walter S. Campbell,
2nd Lieut. William J. Ryan,
2nd Lieut. Harold B. Meek,
2nd Lieut. Lyman R. McAboy.
From 21 January, 1937:
Captain Andrew Wylie,
1st Lieut. John W. Hoffman, Jr.,
2nd Lieut. Joseph F. Lee,
2nd Lieut. Richard J. Huerth.

PROMOTIONS:

From 25 May, 1935:
1st Lieut. James J. Dugan.
From 24 July, 1935:
1st Lieut. Frank C. DeSantis.
From 22 May, 1936:
Major Paul Sullivan,
1st Lieut. Elliott N. Park.
From 24 July, 1936:
1st Lieut. Alfred C. Nestle.
From 6 November, 1936:
Captain Thomas A. Pace,
Captain Lloyd W. Nickerson.
From 19 November, 1936:
1st Lieut. Edwin D. Partridge.
From 20 November, 1936:
1st Lieut. Melvin M. Smith.
From 23 December, 1936:
Captain Richard C. Mangrum,
Captain Ferry Reynolds,
Captain Charles J. Schlapkohl,
Captain John T. Salmon,
Captain George D. Omer,
Captain Elliott E. Bard.
From 21 January, 1937:
Captain R. C. Mangrum,
Captain Joseph T. Crowley.

RESIGNED:

From 14 November, 1936:
2nd Lieut. William P. Uhlmann.
From 3 December, 1936:
2nd Lieut. Bruce G. Buckley,
2nd Lieut. Frank K. Clements, Jr.
From 14 February, 1937:
Captain St. Julian R. Childs.

DISCHARGED:

From 8 December, 1936:
Captain George C. Munce.
From 25 January, 1937:
Aviation Cadet Harvey D. McMurtry, Jr.

DIED:

1st Lieut. "O" "P" Wolcott, 13 November, 1936.

AVIATION CADETS—APPOINTED:

From 6 November, 1936:
Robert B. Cox,
George E. Dorn,
Joseph J. Kelly,
Burnette A. Kempson, Jr.
Edward Miller,
Robert D. Miller,
Winton H. Miller,
Edward J. Moore,
Warren A. Phillips,
William A. Rygg.
From 9 December, 1936:
Thomas E. Mobley, Jr.,
Robert P. Regan.

CONSTRUCTION AND USE OF THE ONE THOUSAND INCH LANDSCAPE RANGE

■ The almost complete absence of terrain suitable for instruction in musketry and minor tactics in close proximity to the Marine Corps Base, San Diego, had so seriously handicapped the efficient execution of our field training plans that we necessarily cast about for a substitute which would more nearly approximate actual field conditions than the somewhat hazy idea of troop leadership one gains from the solution of map problems. Sand-table exercises partially meet this need but did not enable us to develop the desired efficiency in the leadership of the ever important small units.

Our thousand inch small bore range, built several months ago, in the Base Training Area adjacent to the parade ground had enabled company commanders to make considerable progress in developing their squad, section and platoon leaders by means of the use of landscape targets. This training was good but it was decided we could more nearly approach the ideal terrain firing if exercises by rifle squad and machine gun sections could be worked out. After considerable research it was decided to use, in the main, the Infantry School method for the construction of a miniature range with such modifications and improvements as were considered desirable and practicable to meet our needs. An area immediately in front of the thousand inch small bore range backstop sixty (60) feet by forty (40) feet was outlined with sandbags graduated from twelve (12) inches above the surface of the ground at the backstop to the level of the ground at the firing point. A sort of adobe soil was selected as the most suitable available for moulding land forms, as actual crusting of the surface was essential, since it was decided after much experimentation to put in the roads, rivers, etc., with white and blue calcimine respectively and to mix green calcimine with soil to give the effect of grassy areas. Railroads were represented by old metal strapping and woods by cypress shoots obtained from our post nursery. Miniature houses, churches, bridges, etc., were cut out of cardboard, approximately to scale, and vividly colored in order to facilitate the designation of targets. The buildings were dug well into the ground and were seldom shot away, although most of them were perforated with bullet holes. The backstop was painted so as to exactly represent the section of our waterfront which it obscured. Three firing points, the first one thousand inches from the far end of the musketry range and the others successively each one thousand inches in rear, enable us to divide the landscape into thirds, each with distinctly different terrain features. A section of the Antietam sheet of the Gettysburg map was selected for reproduction and in scale so that one inch on the range represented one-hundred and forty-four (144) inches on the actual Gettysburg terrain. The sand bag boundaries were measured off to facilitate locating coordinates, every foot painted in red. In order that elevations and depressions would be accurate the mean of the highest and lowest points was determined and measuring stakes prepared accordingly.

The scheme of infantry training, following known distances practiced on the rifle range, included musketry, with the exception of range estimation. The limitation of this one range was realized soon after training commenced, as it was found possible to use but one squad actually firing at a time. To remedy this deficiency, the range is now in the process of being extended to three times its original size, which will permit its simultaneous use by four squads actually firing, and musketry exercises by a platoon of either three or four squads. Furthermore, this expansion may be utilized for simple combat field firing problems involving fire and movement of all Battalion weapons, utilizing the 37mm gun by the use of the 22 caliber rifle barrel in the same manner as sub-caliber modifications are applied to guns aboard ship and to field artillery.

Using the miniature landscape range, machine gun units worked out problems involving the principles of musketry in so far as it relates to machine guns; fired traversing and searching fire; prepared range cards; practiced indirect laying and five hundred (500) inch range firing.

This course of preparatory instruction and training proved invaluable to the Sixth Marines during its period of combat training at Camp Kearney, where numerous tactical problems in musketry and combat firing, with supporting machine gun fire, were most successfully carried out.

Since most Marine Corps Posts are located along the densely populated seaboards, it is believed that the general construction and use of landscape ranges would meet a long felt need in the combat training of Marine units located in restricted areas.

THE COCO PATROL

Operations of a Marine Patrol Along the Coco River in Nicaragua, 1928-1929

SECTION IV—THE ADVANCE TO POTECA

MAJOR MERRITT A. EDSON, U.S.M.C.

■ Puerto Cabezas and the Eastern Area had continued to grow during the time that the *Denver* Detachment had been in the hills.

Additional barracks had been erected or were in process of construction to a total number of five. A two-story hospital was nearing completion. The Area Quartermaster had a large and well stocked storeroom. A post exchange had been established and the exchange building and recreation room was almost finished. Plans were under way for the erection of a radio shack and a new headquarters building was projected.

The single music boy who had accompanied Major Utley to Bluefields in February was no longer an adequate staff to care for the increased activities in the Area. The duties of A-1 and Post Exchange Officer were being handled by Lieutenant Ralph B. DeWitt until such time as he assumed command of the *Denver* Detachment and went into the hills. Lieutenant W. Carvel Hall functioned as A-2, A-3 and Communications Officer. Lieutenant George W. Shearer had been relieved from duty with the 51st Company and was Area Paymaster, Area Quartermaster and A-4, assisted by Pay Clerk John J. Reidy and Quartermaster Clerk James M. Fountain. A medical staff of three medical officers and a dental officer were on duty. A mile and a half from the center of the settlement was the aviation field. Captain Euvelle D. Howard, Lieutenant Vernon M. Guymon and Lieutenant William W. Conway were the attached aviators. A hangar which housed three OL-8 amphibian planes was already completed; an office building and enlisted quarters were under construction; and the field itself was being drained and improved. All this seemed a far cry from the day we had landed only four months before.

Instead of the few coastal outposts which had existed in February, the Eastern Area "grew and it grew"[18] until it already included nearly half of Nicaragua. The *Tulsa* Detachment, one platoon of the 59th Company, attached units from the 51st Company and numerous casuals were at Puerto Cabezas. The southern sector around Bluefields was garrisoned by the 51st Company under Captain Donald J. Kendall with outposts at El Gallo, Rama and San Juan del Norte. The 60th Company occupied the mining area with its westernmost outpost at Cuvali. Bocay was garrisoned by Captain Walker and a platoon of the 59th Company, while the *Galveston* Detachment occupied outposts at Raiti, Awawas and Waspuc.

Between these outposts and the easternmost garrison of the Northern and Southern Areas in western Nicaragua, there was a strip of wild, jungle territory, some 150 miles wide, free from Marine patrols and well enough inhabited to provide Sandino's outlaws with food. It was into this section that the bandits had moved.

On the morning of June twenty-eighth, 1928, the USS *Rochester* dropped anchor off Puerto Cabezas. Major Utley immediately went on board. He returned shortly before noon, accompanied by Admiral Sellers, Commander of the Special Service Squadron; General Logan Feland, Commanding the 2nd Marine Brigade, and Captain Harry A. Baldridge, Commanding Officer of the *Rochester*.

As I saluted General Feland, he said to me, "Major Utley tells me that you would like to go to Poteca. Can you get there from this coast?"

After the messages which I had sent from Bocay and the numerous talks I had had with the Major on this subject, there could be only one answer. "Yes, sir; it can be done."

"Well, I am going to give you the chance to do it."

That was the beginning of the *Coco* Patrol.

In about fifteen minutes that afternoon, I reported in accordance with my orders to Captain Baldridge for duty as Commanding Officer of the Marine Detachment of the *Rochester;* then to General Feland for duty ashore in Nicaragua with the 2nd Brigade; and finally to Major Utley for temporary duty in the Eastern Area.

General Feland told us that recent airplane reconnaissance and other information definitely located the outlaw concentration around Poteca. They had raided that place on June fifteenth. On the twelfth, "Altimirano raided a lumber camp on the Poteca River eight miles from the junction of the Coco River. The owner, a German, was warned not to continue operations without the consent of Sandino."[19] Marine forces from the Northern Area reported that there were no trails leading into the Poteca sector from the west and that their patrols were unable to reach that place.

Steps were already being taken to organize the various departments and precincts of Nicaragua preparatory to supervising the Presidential elections to be held in November. It was essential that the bandit force be eliminated or dispersed into such small groups that it could not effectively interfere with the conduct of the free and fair election which the United States had promised to conduct. If Sandino were left unmolested for the next four months to recuperate, to recruit his forces and to perfect his organization, it was conceivable that he might be in a position to add serious difficulties to the fulfillment of this promise in so far as the Departments of Nueva Segovia, Jinotega and Matagalpa were concerned.

The Northern Area had stated that they could not get into Poteca. We of the Eastern Area said that we could, in spite of the rainy season, lack of trails, difficulties of supply and transportation and the much greater distances to be traveled. Previous instructions regarding the stabilization of the area were modified and Major Utley was ordered to organize a patrol to be placed under my command which would proceed up the Coco River with Poteca and Santa Cruz as objectives. Poteca was to be occupied as soon after August first as possible. Air support and supply would

[18]EASTERN AREA Song:
"Oh, the Eastern Area grew and it grew, hablas tu;
Oh, the Eastern Area grew and it grew, hablas tu,
Oh, the Eastern Area grew and it grew,
No one knows what it's coming to,
Hinky, dinky, hablas tu."

[19]Page 204, The Marine Corps Gazette, Vol. XIII, No. 3, September, 1928.

come from the Eastern Area. Cooperation would be given by the Northern and Southern Areas in that patrols from Jalapa, San Albino, Quilali and Jinotega would be ordered to operate early in August to the east of the Rio Jicaro and in the vicinity of Santa Cruz, where I would establish liaison with them. Such was the plan agreed upon.

Late in the afternoon of the twenty-ninth of June, the *Rochester* weighed anchor and steamed for the Canal Zone and Corinto. Although officially attached to her complement, I had yet to set foot on her deck. A whole year was to pass before I would go aboard to take command of her Marine Detachment.

A few days later, Eastern Area Field Order Number 4 was issued organizing the Coco Patrol. It assigned troops and officers thereto, and defined the mission "to proceed up the Coco River, to drive the bandits from the river valley, destroying such groups as it might encounter, to take and hold Poteca, and to continue the movement southwest from that place to form a junction with patrols from the Northern Area in the vicinity of Santa Cruz."[20] The Marine Detachment from the USS *Denver* under Lieutenant DeWitt, that from the USS *Galveston* under Lieutenant Cook, attached from the 51st Company, and two hospital corpsmen attached from the 51st Company made up the patrol; a total paper strength of 3 officers, 87 enlisted Marines and 2 enlisted Navy.

The magnitude of the task confronting us can be partially visualized by studying the map of Nicaragua and by considering the situation as it existed at that time.

Poteca, the initial objective, was more than four hundred miles from Cape Gracias, and at least four hundred seventy-five miles from our base at Puerto Cabezas as compared to a maximum of sixty miles from the Jicaro River line of the Northern Area. If we could make good the daily average of fifteen miles which I believed possible, the movement would require thirty days as compared to the maximum of four days from Quilali or San Albino. Even if we assumed that Bocay was our jump-off point, the distance to be traversed was at least two and a half times as great as from the eastern outposts of the Northern Area, upstream, through unknown terrain, in the very height of the rainy season.

Our information indicated that all of the organized outlaw force who owed direct allegiance to Sandino was concentrated in the Poteca area, an estimated total of about four hundred men. Outside of the fact that Gulkes Camp, up the Poteca River, and Poteca itself were occupied, we had no knowledge of the actual bandit dispositions.

As I have said before, there were no Marine garrisons between Bocay and Quilalí. When we left Bocay we would have with us all the men who could be spared from the Eastern Area forces, as well as all available transportation, so no reënforcements could be expected from our rear. The Northern Area had already stated that it was impossible for their troops to penetrate to Poteca from the west. We could therefore expect no help from friendly forces in the field. Munitions, provisions and supplies must be taken in sufficient quantity to last during our move to Poteca and Santa Cruz plus the time necessary for our supply train to drop down river, refill and return. No portable radio set was available for our use. Communications would be confined to airplane liaison which, because of the rainy season, would be most irregular. Once the patrol left Bocay, it must become a self-contained, self-supporting combat patrol, entirely dependent upon its own resources for its success or failure.

There was practically no choice as to the route to be followed. Conditions had changed materially since the first of June. The heavy rains then in full sway had already converted such trails as did exist above Bocay into seas of mud or had entirely drowned them out where they followed the stream bottoms. The idea of using pack trains and proceeding overland was abandoned. The river itself offered the most natural route. We were familiar with the terrain as far as Bocay. Above that point, our information indicated that, except for two or three rapids which would require portage, there were no insurmountable difficulties to transportation. The river was a definite route for the evacuation of sick and wounded, if any, and offered a positive route of communications with the Eastern Area. The chief disadvantages to its use were the unusual difficulties to navigation because of the season of the year; the fact that once contact was made with the bandit force our route and means of approach would be definitely known; and that our operations in the field would be limited in area to within supporting distance of our boat train.

The first difficulty to be solved was that of collecting the troops which made up the Coco Patrol into one group, a task which was not completed until the middle of September. On June twenty-fourth, Lieutenant DeWitt, with about half of the *Denver* Detachment, had left Puerto Cabezas for Waspuc as a relief for the *Galveston* Detachment, which was scheduled to return to the coast for a short rest period. As soon as the Coco Patrol was conceived, DeWitt was ordered to Bocay with his detail and the move of the *Galveston* Detachment to Puerto Cabezas was cancelled. Cloth-

[20]Field Order No. 4, Eastern Area, Puerto Cabezas, Nic.

ing and equipment necessary to refit this detachment were ferried to Waspuc by plane and distributed from there to their various detached posts. On the second of July, the remainder of the *Denver* Detachment left Puerto Cabezas for Waspuc and Bocay, and on the seventh of the month, an additional platoon of the 59th Company moved out to replace the *Galveston* personnel station at Waspuc and Awawas and Raiti. Orders were issued for each increment to move to Bocay, which was designated the assembly and jump-off point, as rapidly as transportation became available. July twenty-third was tentatively selected as "D" day, allowing ten days for the advance from Bocay to Poteca.

The plan was to organize the patrol into two platoons of five squads each, plus a headquarters group. Each platoon would consist of one of the ship's detachments, under its respective detachment commander, the headquarters group to be made up of the acting first sergeant, runners, cooks, hospital corpsmen, et cetera, assigned from each of the two detachments.

It was definitely decided to use such native boats as existed along the river for our boat train. Navy boats were too heavy; they drew too much water; and they were too slow and awkward to handle in the swift waters of the upper river. Except for two or three fabricated boats in the vicinity of Cape Gracias, all those on the river were of the ordinary dugout type, hewn out of one single cedar or mahogany log. They were light in weight; easy to handle on the water or to portage; very responsive to pole or paddle; strong, sturdy and almost indestructible; and, most important of all, unsinkable. They might swamp or capsize, but they would invariably roll over and float to the top.

The standard river boat was the pitpan, a single dugout type, approximately thirty-five feet long and thirty to thirty-six inches wide. The mahogany boat was stronger and more desirable than that made of cedar although it was not so slight nor so easily made. The average sized pitpan required at least one month to build. These boats had a carrying capacity of one full squad, sitting one behind the other, with their packs and emergency rations, besides the ordinary boat crew of three or four bowmen and the boat captain. When loaded to capacity, they have a free board of only three or four inches. A day's ride in one of them was a tedious affair. Due to the small free board and their inherent instability, the passengers were limited as to movement and were forced to sit on their pack seats in an almost upright position from start to finish of the day's journey. Because of its size and the fact that it carried a single tactical unit, the squad, the pitpan was the most satisfactory of the river craft from the viewpoint of a combat patrol.

The pipanti was a small edition of the pitpan, with a carrying capacity of four or less men, besides its crew of two or three bowmen and the boat captain. This craft was used primarily for the advanced guard and rear guard units of half squads each, and was only utilized for the main body when other larger craft was not available.

A third type of poling boat was the bateau. The hull of this boat was a large pitpan, strengthened by ribs which extended above the sides and to which were added wooden strips. These increased the free-board, thus adding to the carrying capacity of the boat. They were used primarily for cargo craft, although troops were often carried in them. As a combat boat, they had the distinct disadvantage of placing too many men in a small compact group which presented a large and easily found target. The largest bateau on the river required a crew of eleven bowmen and two boat captains and had a capacity of about 7,500 pounds.

By the simple expedient of fastening a strong piece of two by four to the stern of these various types of boats with three or four bolts, they were converted into motor propelled craft by attaching one or, in the case of the larger bateaux, two Johnson outboard motors to this piece. Changing the pitpan into the cayuga, as was common practice around Bluefields, by cutting off and squaring up the stern for the attachment of the outboard motor was not necessary and was never done along the Coco River.

The number of boats suitable to our needs was limited. Three of the largest and best bateaux had been taken up river by Aguerro during his raid of Sang Sang in April and were not available. If every suitable boat between Bocay and Cape Gracias was commandeered, there would be scarcely enough to carry the entire patrol. To utilize them for this purpose alone would be suicidal. It was essential that Bocay, already under-rationed, be supplied with food and that a surplus be built up at that place which could, in turn, be forwarded to my patrol once it had obtained its objectives. This required transportation. A compromise had to be effected as to how many and what boats should be kept by me and which would be released for the transportation of supplies and replacements. The movement of every man towards the upper river meant that a corresponding amount of supplies had to be provided and transported for him. One could already foresee the three months' struggle which was to exist between the needs of troop transport and supply transport.

The use of outboard motors for the patrol was considered and rejected. They made too much noise to be of practical use with a combat patrol. With them, our exact position would have been positively known two or three miles in advance during the entire movement, so that the bandit forces we would undoubtedly meet could lie in wait in ambush or could run away from us with an absolute knowledge of our every movement. Because of the constant exposure to heavy rains and moisture, they were apt to prove unreliable at just the moment when they were most badly needed. They could not be trusted in negotiating the large rapids which we had to pass through. And they consumed an enormous amount of fuel. It was estimated that the gasoline and oil supply needed to make the move to Santa Cruz would require more space than our supplies and equipment combined. If outboard motors were used, we would have to sacrifice valuable space needed for the much more necessary rations.

As in my previous move up the Waspuc in May, and for the same reasons as existed then, the use of Marine boatmen was rejected. I decided to depend upon my friendship with and knowledge of the Indians along the river to provide me with the necessary native boatmen. I felt that the time and effort spent during the previous four months in cultivating the good will of these people would now be repaid.

Once again I was confronted with the need of competent guides and interpreters. Once again, I found it impossible to locate any man who was acquainted with the river as far as Poteca and Santa Cruz and who was able to speak intelligently English, Miskita and Spanish, all three languages being required. I finally selected

Arthur Kittle, whose knowledge of woodcraft, the river country, and the Miskita Indian would be invaluable even though he had never been farther west than Bocay; and Augustine Garcia, half Indian, half Spaniard, who had been with Moncada's revolutionary army in its move from Puerto Cabezas to Jinotega, who had been a guide with Captain Linscott in his move to Bocay, and who had a working knowledge of the three languages required, although he, too, had never been along the Coco River above Bocay.

The question of armament and munitions was an easy one. Each squad was armed with six rifles, one Browning Automatic Rifle and one Thompson sub-machine gun. The Thompson was given to the best qualified private or private first class in the squad who was assigned as number three of the front rank. Squad leaders carried rifles, not the Thompson. Section leaders, platoon leaders and the patrol leader were armed only with the automatic pistol, as were the designated runners, one for each platoon. Two native machetes per squad and a few extra distributed among the section leaders were carried as regular equipment. There were no rifle or hand grenades or any grenade dischargers available in the Eastern Area, so none were carried. The only ammunition on the East Coast was the wartime vintage 150-grain Model 1906, which had been landed from the ships of the Special Service Squadron. There was none of the new M-1 which was being used on the west coast of Nicaragua. Machine guns were considered but were rejected for the initial move up the river. They were too heavy and cumbersome to accompany shore patrols which had no pack train, nor did I consider them an effective weapon against a well hidden ambush in the close terrain through which we were to pass. They could not be mounted to advantage in poling boats of the pitpan type. I had no intention of engaging in a fire fight between a flotilla of open boats in midstream and a concealed bandit shore position. Their weight and bulk would decrease the number of men and supplies which could be carried. Their sole use would have been as a defensive weapon with the boat train while shore patrols were operating at a distance to the front or flank. I decided that the disadvantages of carrying the weapon offset any tactical advantage to be gained and did not carry them. Were I given a similar mission again, I believe that I would carry two Lewis guns for defensive use in case of necessity; not as an offensive weapon under the conditions which existed on this patrol.

In order to provide as much room in the boats as possible for the essential rations, individual clothing carried by each man was reduced to the very minimum. Besides that actually worn, one complete change of clothing was carried, one pair of shoes, as many pairs of socks as each man wished above four, and two blankets. Haversacks and pack carriers were left at Puerto Cabezas. If shore patrols became necessary, blanket shoulder rolls would be used. Rolls were made with the poncho. Shelter halves were left behind. Experience had taught us that leaf lean-tos could be built in about ten or fifteen minutes and that they were actually more waterproof and more comfortable than shelter tents. These shacks were made of a framework of young saplings bound together with vines or bamboo bush, faced to leeward from the rain or prevailing wind, and covered with manaca or banana leaves. Manaca leaves, being tougher, more closely fabricated, and more durable, were used whenever they could be found. A well built manaca leaf lean-to would shed the heaviest rains for three or four weeks before the leaves had to be renewed; banana leaves had to be replaced every week or ten days. Toilet articles were limited to soap, tooth brushes and tooth paste. Razors and shaving accessories were abandoned. Such men as could afford them purchased laced boots to be worn in place of the issue shoe. No canvas leggins were worn or taken. A few of the men bought the native rubber covered sack for their duffel, and there were a few hammocks carried, although their use was never general in my patrol. Once again, experience had taught us that bunks made of split bamboo could be quickly and easily constructed and that they were more comfortable than the native hammock. Because of the heavy rains, mosquitoes were few in number, and mosquito nets were not carried. They were too bulky and were really of little protection against either the mosquito or the more common and obnoxious sand flea.

Rations consisted of those articles which, in my opinion, gave the greatest return for the bulk carried—cereals such as oatmeal and hominy grits; rice, beans, canned salmon and corned beef; flour, salt, sugar, hardtack and coffee. Canned vegetables, tomatoes, fruit and jam were carried in only limited quantities or not at all. Each increment moving beyond Waspuc was to carry enough rations to last until the fourth of August. If all went well, we should reach Poteca about that date, where we should be able to subsist off the country, and it was arranged with Major Utley that supplementary rations should be dropped by plane as soon as practicable after the first of the month. It was assumed that August fifteenth was the earliest possible date that we could expect any supplies from Bocay and that it might easily be September first before any regular convoys would begin to operate. In the meantime I planned to subsist off the country with an occasional aviation drop of such essentials of the ration as were needed.

By this time, both Quartermaster and Intelligence funds were available in Puerto Cabezas and I carried with me an initial sum of two hundred dollars to pay for labor and, if advisable, purchase information. As on my two previous trips up the river, a considerable portion of this sum was converted into leaf tobacco and the remainder carried in one dollar bills and silver.

The only portable radio set in the area was at Bocay. It was the one which I had carried there with the *Denver* Detachment the month before. Because Bocay was the last permanent outpost on my line of communications, and because of the difficulty of keeping it supplied with the necessary wet or dry cells to keep it in operation, it was decided that the radio should remain there and that I would again rely on plane liaison for communication with Bocay and Puerto Cabezas. In case of necessity, a boat could always drop down river with a message.

All of these things and more had to be considered in detail and some decision reached concerning them. The four months which I had already spent along the river stood me in good stead and I was indeed glad to have had that experience. The knowledge of the river and the river people was invaluable, but I had yet to see the river in flood at the height of the rainy season, and the reactions of the Indians when contact with bandits was imminent.

At six o'clock on the evening of July tenth, I embarked on the coastal schooner *Esfuerza*, bound for Cape Gracias á Dios with 28,000 pounds of rations for

trans-shipment to Waspuc. Originally I had planned to fly to Waspuc by plane, but it had rained constantly since the first of the month and I could wait no longer. I had with me two enlisted men of the *Denver* Detachment who had just been released to duty from the hospital and the guide, Arthur Kittle. On the deck of the schooner was a box containing a new Johnson outboard motor and gas and oil enough for the trip from the Cape to Waspuc. Upon reaching Cape Gracias, the motor was placed on Kid Green's small, flat-bottomed boat, the *Eld*—not a very satisfactory boat for river use but the only one available—and, with Kittle at the motor, I was on my way. That was the morning of the eleventh. At four-thirty on the afternoon of the thirteenth, I arrived at Waspuc. We had traveled from before daylight until after dark each day; we ate no noon-day meal and purchased our supper and breakfast where we spent the night. It had rained the entire journey. The river was then at half-flood; a muddy, deep, swiftly running stream, filled with floating debris; a much more imposing and awe-inspiring river than it had been four months before. Lalakapisa Rapids, which had given us so much trouble before, was now almost unrecognizable except for its slightly steeper gradient. So with the other rapids of the lower river. So far as motor propelled craft were concerned, the rainy season was an advantage and an aid to navigation as far up river as Awasbila, but I could already see that it would be a decided detriment to poling boats going upstream beyond that point.

At Waspuc, I found that the Coco Patrol was distributed as follows: Lieutenant DeWitt, twenty-one enlisted Marines and one enlisted Navy were en route to or at Bocay; Lieutenant Cook, forty-two enlisted Marines and one enlisted Navy were at Waspuc; two outposts of eleven men each were at Awawas and Raiti; and two men were at Cape Gracias or en route from that place to Waspuc. Of the three officers and eighty-seven enlisted men assigned to the patrol, only one-fourth of the total strength was at the point of departure, which we were supposed to clear in only nine days. There was no transportation available until the afternoon of the fourteenth, when a flotilla of six boats arrived from Bocay.

Early on the morning of the fifteenth of July, this same flotilla started up-river, carrying sixteen men of the *Denver* Detachment, completing the forward movement of that organization; three men of the *Galveston* Detachment; one pharmacist's mate attached to the patrol; and sixteen men of the 59th Company who were to relieve the two *Galveston* outposts. The remainder of the patrol, Lieutenant Cook and twenty-five enlisted, were to follow as soon as boats became available.

To man these six boats, carrying an eventual pay load of one officer and forty-two enlisted men, with their packs, equipment, four cases of .30 caliber and one case of .45 caliber ammunition, cooking utensils of a sort, and rations for twenty days, there was a native crew of forty-six Indians. Their duffel and rations for a like period were of course included in the load. This may seem like a large proportion of boatmen for the effective fighting force carried, but here again one must consider the effect of the rainy season. Had this move been made six weeks earlier, crews of four men could have done the work now assigned to six or seven, and the number of Marines carried could have been increased by one-third in a purely troop transport movement, where tactical unity did not have to be considered. With the rainy season approaching its height, with the river current near its maximum, and time an essential element, proportionally larger crews were required.

On the afternoon of the sixteenth, an incident occurred which illustrates what I believe to be the correct employment of outboard-motor propelled boats. As we approached Awasbila, where we would be forced to halt for the night at the foot of the Kiplapine Rapids, Lieutenant Cook came alongside in a pitpan equipped with a Johnson motor, the boat being operated by two Marines. He turned over to us mail and canteen supplies which had been delivered at Waspuc by plane that morning. It had taken him a little more than four hours to cover the ground that our poling crews had needed nearly two days to traverse. His boat was lightly loaded; it carried a minimum crew and consumed the minimum amount of fuel; the river was in flood and presented no serious navigational handicaps; and the country passed through was peaceful and under our control. Under these conditions, there is no doubt but that boats equipped with outboard motors have an important place in the performance of command, liaison, courier and patrolling missions, in the minimum amount of time and with maximum efficiency.

I have spoken of the tediousness of travelling day after day in a poling boat. That is quite true in fairly still waters, but it did not apply in the stretch of river from Waspuc to Bocay.

The bowmen of the boats are equipped with both poles and paddles; the boat-captain in the stern—one in the pitpan, two in the bateau—is equipped with a paddle only. The poles are used to propel the boat upstream, the paddles when crossing the river from one bank to the other or in going down river. These poles are about twelve feet long and an inch or so in diameter. When the boat is shoved off from the bank, the bowmen plant their poles on the river bottom, and, all pushing together, propel the boat through the water. The poles are lifted together, their points swept ahead, and again placed on the bottom and another push is given. This has to be done in unison to avoid a general mix-up of poles, broken heads, and upset boats. It also has to be uniform in rhythm so that, the boat once under-way, it will move at a fairly constant speed against the current. In order to find good bottom, as well as to avoid the swift current of the middle or deepest part of the river, the shallower water near the banks is used. It is the duty of the boat captain to keep the bow of the boat trimmed to the current, to keep it on an even keel to avoid swamping, and to select the actual route of the boat. He is, in fact as well as in name, the captain of his crew. Although it is by no means as simple as it sounds, it still is not a particularly difficult task in quiet water or in the dry season. With the river in flood, however, it becomes a vastly more difficult and technical job. The speed of the current is increased many fold. The river is filled with floating trees and debris of all sorts which are a constant menace to the crew and passengers, and the river often overflows its banks, forcing the boats to move along through trees and brush. It is necessary, in exceptionally high water, to cut one's way through stretches of woods. At such times, too, the trees are inhabited by snakes which have been driven into them by the river. Twice we were unwilling hosts to "piute" or "cobre" snakes, the extremely poisonous moccasin found in Nicaragua, which dropped off overhanging branches into our pitpans, and again we avoided a

small boa only by the quickness of one of our bowmen.

In order to take advantage of the quieter and more shallow water, it is necessary to cross the river from one side to the other several times during the day. To do this, the boat captain selects a stretch of water which is free of any rocks, debris or other obstacles for a considerable distance below him. Then, at a word from him, the bowman shoves the bow of the boat into the current. At the same time, the boat captain begins to paddle furiously, keeping the bow quartering into the current, while the force of the current crabs the pitpan across the stream. As it nears the opposite shore, the bowmen reach out with their poles, fend the bow away from the bank, prevent the boat from drifting farther down stream, and the stern swings into the bank. Right here, the captain also has plenty to do to prevent the stern from crashing into the bank, to keep an even keel, and to prevent the craft from swamping and capsizing.

The rapids along the Coco might be divided into three groups according to their navigability when going upstream—those which can be passed by lightly loaded pitpans or bateaux without the aid of shore lines; those which require shore lines as an aid to the crew and which necessitate the portage of all or most of the cargo; and those which are so dangerous that the boats are handled entirely by shore lines with the possible exception of one man in the boat who fends it off rocks and debris which would otherwise crush it beyond further use.

From Awasbila to Bocay, there is one bad rapid after another. At the foot of each, the boats would stop and disembark their passengers, who would have to move overland to the head of the rapid and there await the arrival of the flotilla. In many cases, all the contents of the boats had to be portaged for a hundred yards or more, the longest being over a mile, and the men manned the shore lines to drag the boats through the raging, boiling water of the river. It was hard, exhausting work, with wet feet, wet clothing, and sores caused by scratches from the jagged rocks and bushes along the canyons. Tilba, the longest rapid of them all, required five and a half hours to pass through. Even the smallest of them consumed an hour, and the night of July 19-20 found us half way through Kooras, the worst rapid on the river, where we camped on a small shelf in the bank and were nearly driven out by the rapidly rising river during the night.

Each day was much like the one before it. We were up at four o'clock; breakfast at four fifteen; the boats loaded and under-way between five and five-thirty; poling laboriously upstream or working our way through one rapid after another from dawn until we reached a suitable camping place at any time after four in the afternoon (the record of events shows that it was usually after five-thirty and twice we did not halt until after dark), and always there was the inevitable rain. Such sunlight as we had came around the middle of the day. I do not remember a single night along here that we did not go into camp in a downpour. Every man was wet from the top of his head to the soles of his shoes. Even the extra clothing carried in the roll or rubber sack was damp when it was put on for the night and it had to be repacked each morning while the wet clothes of the day before were donned again to insure at least one semi-dry outfit to sleep in. We usually spent the night at some small Indian village, although there were two nights spent in the open besides the one in the Kooras Rapids. In any event, there was only wet wood for our fire and supper was seldom served before eight o'clock, a long time after the four-fifteen breakfast we had eaten. To save both time and rations, we did not often stop for a noon-day meal, and when we did, it consisted of only hard-tack and sardines or salmon.

We arrived at Camp Utley, Bocay, late in the afternoon of July twenty-fourth. "Here . . . I found half the *Denver* Detachment. With the men that I brought with me, I have now three-fourths of my company. Lieutenant Cook is about one week behind me and will bring the rest of the men with him. Lieutenant DeWitt went back to Puerto Cabezas by plane a few days before I arrived here. It was the first time the planes have been able to get in here in over a month due to rains. I am very sorry that Ralph could not stay, for he is an excellent officer and I could use him to good advantage. . . . Never in my life have I seen so much rain as we have had during the past week. It has rained nearly steadily day and night for the past six days. The river has risen its highest for the year and trees, logs and all sorts of drift have been going downstream."[21]

The garrison at Bocay under Captain Walker was practically rationless. They had less than a week's supply on hand. It was imperative that some transportation be used in the system of supply. Not only was it necessary to provide the men at that camp with provisions, but a surplus had to be built up which my organization could draw upon as soon as it established its base at or above Poteca. As much as I disliked to release any of my transportation—each boat left behind reduced the size of my patrol proportionately—I sent my largest bateau with its full crew and two enlisted sick back to Waspuc.

The twenty-fourth and twenty-fifth were used to give all hands a much needed rest, to wash and dry clothes after nine days' hard, continuous work. Organization of the patrol which was to make the next move was effected and I had an opportunity to gather as much late information as possible of the country and of bandit dispositions above Bocay.

From Alfred Webster and Mike Thompson I learned that, after passing Santa Rita, a settlement some five miles above Bocay, there were sixty or seventy miles of absolutely uninhabited jungle before we came to the next village of Mastawas. Two days' march this side of Mastawas were the Callejon Rapids, the worst stretch of water between Bocay and Santa Cruz, a rapid which would require at least a partial portage. Webster confirmed our previous information that the main body of bandits was in the vicinity of Poteca, but he stated that a patrol going up-river might expect contact at Callejon or at any point beyond there. He gave the estimated strength of the outlaws as 350 to 450 men.

Webster was a middle aged Englishman who had come to the Coco Valley many years before from Jamaica for reasons known only to himself. He had eventually settled in Bocay, where, with his nephew, Thompson, he had become patron of that area and engaged in a lucrative gold and mahogany business. On the advent of Sandino, he had protected himself by paying assessments in money, provisions and the labor of his Indians. I had met Webster in Cape Gracias in March. I enjoyed talking with him and I believe that the

[21]Personal letter, dated at Bocay, Nic., 25 July, 1928.

friendliness which he always showed me was sincere. He was in a most difficult position. He well knew that if we should vacate Bocay before the bandit element was absolutely destroyed, he would have to leave with us if it was even suspected that he had aided us in any way. In spite of this, he gave us some excellent information. Everything which he told me about the country and about the bandit dispositions was correct. Some of this information was hard to get, and I know that he did not give us all that he might have. At the same time, as I learned later, he had, cached in his home, some of the loot from the Pis Pis raid which had been turned over to him awaiting transportation up-river to the bandits. In other words, he was playing both ends against the middle, but one can not much blame him for that. Persons such as Webster were of great potential value to us if we could prove our ability to annihilate the bandit element or, failing that, give undoubted assurance that we would remain in the country for a long enough period of time to entirely subdue the bandit element.

On the twenty-fifth of July, we collected all pitpans in the vicinity which were suitable for our use and which were not already at the camp beach. No Indians were permitted to leave camp. An outpost was established at Santa Rita to prevent the passage of any informers up river. Rations were overhauled and segregated. Reserve ammunition, taken from Captain Walker's stock because he said that it was all hand-picked with unserviceable rounds culled out, was set aside and all details were made for an early start the following morning. It was not until then that Webster realized that we were actually going into bandit territory. He asked that none of his Indians be taken as boatmen. He believed that such a move was suicidal. If his men were recognized as part of our crew, he knew that bandit reprisals would inevitably follow. I fully intended to use every boatman in camp, promising him, however, that his men would be well paid and well provided for. At the end of the day, I had boats and boatmen sufficient to carry my entire available patrol of 61 enlisted Marines, 2 pharmacist's mates and Arthur Kittle, the guide and interpreter.

It had rained steadily since our arrival at Bocay, culminating in an especially heavy downpour during the afternoon and night of the twenty-fifth. The night was as dark and black as any I have ever seen. In spite of posting extra sentries over the boat moorings on the beach and around the buildings occupied by the Indians, our largest bateau and a smaller pitpan broke loose and were swept away in the rapidly rising river and several of the local Indians slipped into the bush between the sentries. It was impossible to hold the sentries accountable for this. The river rose so quickly and the current increased to such an extent that, if there had been no special post over the boats, our entire flotilla would have carried away. There was less excuse for the loss of the boatmen, but under the conditions which prevailed, a cordon of sentries would have been required to have stopped them and it was not possible to fix the responsibility for their escape on any one sentry.

As a result, our departure the next morning was considerably delayed while boat loadings were rearranged and the patrol was reorganized in accordance with the transportation then available. We finally cleared Bocay with seven boats carrying 46 Marines, 1 hospital corpsman, the guide and myself. This included the boat and outpost at Santa Rita.

The patrol was organized into one platoon as follows:

Plat. Hdqrs.: Patrol Commander.
Sgt. Mosier, 2nd in command.
2 runners.
2 cooks.
1 pharmacist's mate.
1st Section: Sergeant Schonberger.
2 squads, *Denver* Detachment.
1 squad, *Galveston* Detachment.
2nd Section: Sergeant Hickethier.
2 squads, *Denver* Detachment.

There were left behind at Bocay: Sergeant Byrd, 2 squads of the *Galveston* Detachment, and 1 Pharmacist's Mate.

The formation adopted was as follows:

Advanced Guard

1 pitpan—Advanced Guard commander and one half squad (3 rifles, 1 BAR and 1 pistol).

At a variable distance, depending on the river and terrain, usually from 100 to 150 yards, came the

Main Body

(Distance between elements about 50 yards)

1 pipanti — Headquarters group (CO, 2 runners and guide).
1 bateau—one half squad and one squad.
1 pitpan—one squad.
1 pitpan—Section Leader and one squad.
1 bateau—one half squad, galley force and pharmacist's mate.

Distance, 75 to 100 yards:

Rear Guard

1 pitpan—Rear Guard commander and one half squad.

Individual packs were carried in each boat with the men therein. They were used as seats, being placed on short sticks laid thwart-ship three or four inches above the bottom to keep them clear of the water which was certain to be shipped during the day. Rations were divided among the boats of the main body although, through necessity, the bulk of them was carried in the two bateaux, and the larger share was in that bateau at the rear of the main body. Prior to leaving Bocay, each man was issued an emergency ration of one small can of beans, two cans of sardines, and sugar and coffee or tea in the condiment can. This was carried in the roll and was not to be used except on order of the patrol commander. The bacon can was utilized to carry tooth brush, tooth paste, and cigarettes in order to keep them dry. Each rifleman carried 100 rounds of ammunition, each automatic rifleman 200 rounds and each Thompson sub-machine gunner 150 rounds of caliber .45 (100 in the box type magazine and 50 in the drum type). Those men armed with the pistol carried 21 rounds of ammunition each.

Due to several reasons, we made good only five miles in as many hours on the first day. Although the river had started to recede from its flood peak of the preceding night, its height and swiftness were serious obstacles to travel. Halfway to Santa Rita, planes were sighted going into the landing at Bocay. As it was the first aerial contact since the eighteenth, my boat left the column and returned to Camp Utley to pick up mail,

orders and late information, if any, and canteen supplies which I assumed would be aboard. Santa Rita was the last good camp site for several miles. Finally, I hoped by a late patrol to find additional boats and boatmen in the settlement at Bocay. A small patrol dropped down river at dusk. It failed to locate any more boats, but four Indians, one of whom had been with me before as a boat-captain and who knew the Bocay-Santa Cruz area thoroughly, were added to the force.

The morning of the twenty-sixth had broken clear and bright, an auspicious omen, we thought. Before dark, however, the rains were once more upon us, an unceasing downpour which lasted until the thirty-first of the month.

The river rose steadily, and by the evening of the twenty-eighth had passed the flood mark reached three days before. Our rate of march was slowed to only a half mile an hour. Late that afternoon, we made camp on a small, flat space on the north bank of the river, just large enough for our bivouac, some six feet above the water. In accordance with customary procedure, the advance guard continued on up the river for at least a mile above the camp site before returning to bivouac, and shore patrols were pushed out into the brush on both banks to look for any trails which might exist. The boat ferrying the south bank patrol across the river "capsized, resulting in the loss of two (2) Browning Automatic rifles and one (1) Springfield with belts and ammunition. Unable to retrieve due to deep and swift water. Lost 104 lbs. corned beef (No. 1 tins) and other rations."[22] Outside of a thorough wetting, there was no injury to personnel and all boat equipment was salvaged.

By nine o'clock that night, the water began to overflow the bivouac area. Between then and daybreak, we were forced to move three more times, each move higher up the bank and onto steeper and more unsuitable terrain. In a little over twelve hours, the river had risen about twenty feet. It was the highest flood in over thirty years, the water actually covering some of the permanent buildings on the south bank of the river at Waspuc. Not only was the water so high that, to travel at all, we would be forced to cut our way through the trees and brush, but the raging torrent was so swift and so full of every sort of debris that any movement of the patrol was too dangerous to be considered. It was necessary, however, to find some place suitable for a camp. At daybreak, we embarked, and moved slowly and cautiously up river for about a half mile, where we found an area made to order, large enough and level enough for our purpose, edged with a small growth of bamboo and overgrown with manaca, and with a small stream on the western edge which formed a cove for the protection of our flotilla from the current of the main river. There we constructed our camp of lean-tos, waiting for the river to slacken enough to permit further advance.

I remember this camp for two incidents. After camp was made and breakfast eaten, I lay down on my bamboo and manaca leaf bunk, which was a couple of inches off the ground, and dozed for an hour or more, making up some of the sleep I had lost the night before. When I got up and started out of the lean-to, a large, full-grown moccasin crawled out from under the bunk, too. I pulled my pistol from its holster and started shooting. At the first shot, the thing headed towards the river. Even though I fired the six remaining shots, it still crawled away. By this time, Indians and men were around. They formed a semicircle on the river side, cutting brush and leaves as they moved in towards my shack. A few feet in front of it they found the snake, already dead; a female, full of young "piutes," and fully six feet long.

During the second afternoon, I suddenly saw a large tree on the river bank start to move. The water had undermined the bank, and over it went into our mooring space, falling directly across the center of one of our larger pitpans. Down went the boat. With a little quick work, the boat was rescued before it was caught in the current and carried down stream. It was unhurt, but a full sack of beans, some hardtack and other rations which had been left in it were washed away.

By the morning of the thirty-first, the river had abated enough to permit travel with a fair degree of safety. That night was spent at the foot of the Kibus-Callejon Rapids. There extra ammunition (2 bandoleers per rifleman and 12 magazines per Browning Automatic Rifle) was issued. I had reason to believe that, in spite of our precautions at Santa Rita, word of our advance had preceded us. We had intercepted the Casca-Coco River Trail, over which Jiron had passed in June. There we found an abandoned bandit camp, some discarded saddles, and, most important, the signs of travel up-stream by one or two men within the week. If the bandits knew of our coming, it was in the Callejon canyon that I expected our first contact. The desertion of five of the Bocay Indians that night also pointed to trouble ahead.

To meet this threat, the first section went overland to the head of the rapids in order to secure the passage of the boat train under Sergeant Mosier and the 2nd Section. The going was rough; much of the way we had to cut our way through the bush, as the main trail following the river bed was under water. At four-thirty we had reached the head of the canyon.

Within a half hour, a runner reported from Mosier with word that the worst of the rapids had been passed, the portage completed and the boats reloaded except for personnel, and that the train should be up with the 1st Section soon after dark.

Scarcely had this man finished speaking when a second runner arrived. The large bateau carrying the galley gear, the medical supplies and the majority of our rations had been caught in a whirlpool, became unmanageable, swamped and had been carried downstream. The remaining boats were manned, and boatmen and Marines had returned to the foot of the rapids to salvage as much as possible. The bateau was recovered. In the process, a second boat was capsized and the contents thereof were lost. At dark, the 1st Section was encamped at the head of the Callejon Canyon and the 2nd Section, boat flotilla and such of our supplies as remained were at the foot of the rapids. Of our rations, which I had carefully husbanded since leaving Waspuc by eating only two meals a day and those none too large, we had practically nothing left; our cooking utensils were gone; and all of our medical supplies except the small kit carried by Maddux were lost. Another Browning automatic rifle and a case of .30 caliber ammunition also went to the bottom of the river and could not be recovered. And to top it all, a whole day had been wasted. The only redeeming feature was that

[22]RECORD OF EVENTS, Coco Patrol, 28 July, 1928.

no men were drowned, as might easily have happened in the mad dash back to the foot of the rapids.

Although it was not possible to prove such a contention, I believe that the whole thing was maneuvered by the Indians in the hope that we would be forced to return to Bocay. They were certainly very much frightened. They expected an ambush momentarily. They doubted our ability to protect ourselves and they thought that we would be surrounded, annihilated and all hands massacred. Shortly before this incident occurred, they reported seeing a Spaniard in the bush near the river, a report which could not be confirmed. It was this, I believe, which precipitated the entire fiasco.

By the following afternoon, August second, the entire patrol was re-united at the head of Callejon. On that day, too, one of the pitpans was swamped and capsized during the passage of the rapids but without the disastrous effects of the day before. This whole episode was summed up in a letter written that night. "Just a note before retiring to acknowledge receipt of your letter of the 15th of July. It was dropped by plane yesterday, landed in the river, was rained on all afternoon, but was still legible when I read it last night. I had just reached the point where you hoped we would keep our rations dry when Sergeant Mosier reported our boats adrift in the rapids. Our rations now consist of some coffee, with no sugar or milk; flour, with no salt; lard; and a very little bacon. We mix the flour with water, fry it in lard, drink our coffee with it, and call it any meal we feel like. And our only cooking utensils are a broken fry pan and a large baking pan with a hole in it. It is a great life."[23]

One had to have some sense of humor in a situation like that, especially when that same mail drop brought me a bill from the Area Quartermaster for rations during the month of July at fifty-three cents per day. I covered the thing with all the remarks I could think of, most of them not very complimentary, as I recall, and sent it back to Puerto Cabezas. Of course, I eventually had to pay the bill.

At dawn on the third, I sent one large pitpan with a crew of two Indians back to Bocay with messages to Major Utley and Captain Walker, reporting all that had happened, requesting medical supplies, and asking for information of Lieutenant Cook and the rest of the Coco Patrol. One man, with a dangerously high fever from an undiagnosed cause (it was not malaria), was evacuated in this boat. His rifle replaced one of those which had been lost. Our cargo had been reduced to the point that we could easily dispense with the services of this pitpan, especially when one considered the formation which would be adopted from then on.

Above Callejon, our means of security were strengthened by sending small shore patrols on each bank of the river to precede the advance guard boat by 50 to 100 yards. If the brush became too thick or the bank too steep for passage, the shore patrol was ferried beyond the obstruction and landed again as soon as possible. It was a rule that both patrols would never be ferried ahead at the same time; at least one of them had to be ashore during the entire day's march. This procedure slowed up the rate of progress considerably but it was considered absolutely essential. It was impossible to observe the shore carefully from the boats or to pick up any well planned ambush. An open poling boat moving slowly upstream is exceptionally vulnerable if it comes under fire from a well-chosen, well prepared position ashore.

By noon of the fourth, we "intercepted a trail from Bocay River coming out on Wanks (Coco) River about halfway between Par Par and Ulwaking creeks. Good, wide trail evidently used by fair sized mounted force about six week ago."[24] This was the route used by Sanchez in crossing from Tunavalon on the Bocay River to Mastawas in June.

At "1330—Main body landed at point above Ulwaking mouth and proceeded to Mastawas by trail."[25] We reached that village at three o'clock.

The settlement of Mastawas lies at the head of and along the western side of a large U-shaped bend in the Coco River. It is in a small bowl-like valley, with high wooded peaks to the east, north and west, all on the left bank of the river, and lower, less rugged hills to the south on the other side of the stream. We approached the first two houses at the head of the bend in a blinding downpour which formed an excellent screen for our movements. They were unoccupied. There were plenty of signs of recent inhabitants and the presence of chickens, pigs and cattle indicated that our fasting was at an end. To the south of these two houses was a small stream, then unfordable due to the high water. On the high ground beyond were three other houses which were apparently uninhabited. Abandoned leaf shacks, temporary potreros, well beaten paths and discarded saddles and mules gave evidence of recent bandit occupancy.

Upon the arrival of the leading boat of our train, I crossed the stream to the south with the second section to investigate the terrain and to decide upon the location of our camp for the night. A patrol under Corporal Hillman was sent still farther to the south, and at 1540 "surprised two Sandinistas at a house on the outskirts of Mastawas. Warned by the barking of their dogs, both men, although fired on, escaped into the bush, leaving behind 1 Remington .30 caliber (Russian Mod. 1916), 1 S. & W. revolver cal. .38, fuzes, caps and bombs, powder and shot, 2 shotguns, 4 machetes, several papers and orders signed by Sandino, Giron and Altimirano. Two men evidently Capt. Aguilar and Barraca. Aguilar had orders to remain at Mastawas, his home, to inform Sandino of our actions. Evidently superseded by orders brought by Barraca to rejoin Giron's camp, where forces are being assembled."[26]

From the bandit correspondence, it was evident that Sandino was entirely ignorant of our occupation of Bocay and of the advance of our patrol.[27] He believed there was no danger of attack from the east and that his down river flank was absolutely secure. It was also apparent that no information of our movement had reached the bandits. The escape of Aguilar and Barraca was, therefore, a decidedly bad break for us. Aguilar was not a professional bandit. He had been impressed into Sandino's forces by circumstance and not through his own volition, other than his belief in Sandino's propaganda that the Marines would ruthlessly kill him and his family and destroy his property if

(*Continued on page 57*)

[23]Extract from personal letter dated at Callejon, Nic., 2 August, 1928.
[24]RECORD OF EVENTS, Coco Patrol, 4 August, 1928.
[25]RECORD OF EVENTS, Coco Patrol, 4 August, 1928.
[26]RECORD OF EVENTS, Coco Patrol, 4 August, 1928.
[27]Copies of captured bandit correspondence.

THE MOTION PICTURE INDUSTRY IN THE NEXT WAR

By W. S. Van Dyke*

■ Carlyle once said: "The man who loves war for war's own sake is a fool or a knave or worse." And with that sentiment, I am heartily in accord and, very likely, so are you, and you.

There is not much I would not do to avert war. And you and you would do the same. We will grant the horror of it, the inanity of it, the absolute uselessness of it. We will shout against it and preach against it and fight against it. I will meet every pacifist in the country on a fifty-fifty basis and say: "Amen, brother, you are absolutely right." But when the talking is all over and everyone is thoroughly satisfied with his or her philosophy about war, THEN if war should come—in spite of all we could do to prevent it—if war should come, what are you going to do about it?

Never in the history of the British Empire has England so thoroughly humiliated herself in an honest and conscientious effort to keep the peace. To date she is no nearer to that ambition than she was a year ago. In fact, her straits are more desperate.

Madmen of Europe are parading each other's boundaries—each with a chip on each shoulder. Sooner or later one of those chips is going to fall. Sooner or later one of Europe's little Caesars is going to twist the tail of the lion too much. And when that time comes, America can not and must not fail the Anglo-Saxon race. Whichever way England bends, that way America must incline. We are bound too closely by economical, social, and racial ties to remain neutral to England's plight. All the rest of the world is one of four things: Fascist, Bolshevik, Nazi and Jingo. If the United States wants any of these four evils, then she can ignore the only great nation left on earth who is fighting them and that is England.

As the world stands today, England is the bulwark between Europe and America. America is the bulwark between England and the Far East. Whether you like it or not, gentle souls, war is coming and it is going to have a great and very decided effect upon the motion picture industry. Our job will be manifold in the great next war. Above all, we will supply a tremendous moral support and we should be organized to do it.

A better understanding of the value of the motion picture industry to national defense is illustrated by the functions of a single production unit. As an example, we will take the production unit that has recently completed the filming of San Francisco. In this company alone are to be found many experts and technicians whose peace-time occupations would become most important duties in times of war.

One of the first functions in preparing a picture for production is the designing of the sets. On San Francisco, the numerous sets were designed by Arnold Gillespie, one of the best artists in the business. In times of conflict, Gillespie and many other experts in the same profession could admirably adapt their talents to the camouflage department, disguising ammunition dumps, gun positions, battleships and create other illusions to deceive the enemy.

Also, film studio artists could create animated line drawings, such as we now see in Mickey Mouse and other animated cartoons, for projection on screens in training camps to teach the rudiments of intricate war problems such as timing in advancing behind a barrage.

Cameramen of the calibre of Ollie Marsh will form the major portion of Hollywood's recruits in the next war.

Not only will the cameraman record the complete history of the next war, but duties will be multiple. Probably most important will be the use of motion pictures in training raw recruits, teaching them the manual of arms, how to prepare packs, operate wartime equipment, and how to conduct themselves under fire.

Aside from observation, to plot the enemy terrain and seek out their fortifications and other positions of military strength, motion pictures also can be used to great advantage, through sound effects and actual battle scenes, in acquainting the recruit to actual conditions under fire—rifle fire, shell shrieks and bursts, the difference between gas and high explosive shells and even the identification of the shell's calibre by its sound in flight. And a large number of cameramen are licensed pilots.

Sound engineers—such as the man on the boom and the expert in the mixing booth—would be placed in sound-detection departments, operating and manning the huge sound detectors. In fact, they would be the ears of the anti-aircraft divisions. Sound detection has reached such an advanced stage since the last war that sound detectors can now determine the direction, speed, type of motor, and the design of the enemy planes.

The ranks of the actors must donate that great and very important contribution to morale—camp entertainment and amusement. Many actors served in this capacity even in the front line trenches of the last war. Many more of them will be needed in the same way in the next war.

Out of the film laboratories will come great numbers of chemical scientists with new inventions—lights to pierce fog and other radio-active contrivances.

From the sound departments will come men invaluable to an army, owing to their knowledge of radio—its rapid installation and upkeep.

From the electrical departments will come an invaluable group in illumination and signal corps work.

We have in our business great engineers, carpenters, office forces to fight the paper battles behind the lines—even transportation will contribute its quota.

The foregoing is only a partial observation of the value of film technicians when war comes. You will note I did not say IF war comes. Practically every other department in the making of motion pictures will find its place in National Defense.

The picture industry should prepare itself against the day. By organizing itself to meet an emergency, it partly obviates the emergency. Make no mistake about the seriousness of the situation nor lull yourself with the present sense of fancy security. Hark to the very few voices that are crying in the wilderness. Prepare!

*By permission of *The Hollywood Reporter*.

IMPRESSIONS OF THE WAR ON THE SOMALI FRONT

By Major Paolo Petroni, G.S.

Assistant Chief of Staff to the Commander of the Royal Somali Corps

The Setting

War in Somalia is always and essentially war, with the daily sacrifices, the necessary deprivations, long fatigues and numerous acts of bravery and also, inevitably, with the noble deaths on the battlefield. But, more than any other colonial warfare, it is a strange struggle in which strategy and tactics are governed by the imperious rule of logistics, in which everything and everyone is dwarfed by the inexorable immensity of the surroundings; a strange struggle wherein the sagacity of commanders and the enthusiasm of troops are submitted to daily proof, torn between the desire for action and the necessary waiting for preparations to be completed.

It is a warfare in which an error in foresight, an imprudence, an untimely act may produce, more than in any other theater, the most serious and often irreparable consequences both for the individual and for the small or large detachment.

* * * * *

From the coast of the Indian Ocean up to the great valley of the Hauasc and the Galla Lakes, this immense theater of operations has for a background the characteristic woodland of the Somalian plain.

Burnt, parched and yellowed in the dry months, of a deep, rich green during the rainy season, inhabited by a vast and varied fauna, always inhospitable to man, the woodland extends for miles and miles, scarcely broken by rare clearings, crossed by a few tortuous trails connecting the distant and tiny native villages.

A few plains probably formed by the slow deposit of water courses in the depressions which were once unhealthy swamps (as, for example, the plains of Gorrahei, Danan and Gabredarre); low tablelands of soft rock; the great courses of the Uebi and the Giuba flanked for long tracts by beautiful fringes of dum plams—these are the only features which break into the uniformity of the countryside.

No single man, however strong and daring, could attempt with impunity to cross this territory, to penetrate the secrets which lie beyond the beaten track. Thickets of thorny shrubs would force him to take a tortuous path and he would soon find himself submerged in a sea of vegetation through which it would be impossible to find his way save by means of the compass and the stars. His sense of bewilderment would increase with the passing of time. His few provisions would soon be exhausted and the most he could hope for would be a lucky shot at a gazelle, a dig-dig, or a pheasant. Parched with thirst under the oppressive mid-day sun, he would search in vain for a refreshing pool. Then, worn out and unconscious, he would fall prey to some beast of the forest or to the ever watchful flocks of vultures hovering above.

* * * * *

Worse than the darkness of night which is eventually succeeded by light of day, heavier than the fog which may finally be dispersed by a gust of wind, is the equatorial forest which is called by some the "thorny fog."

Even this short description will suffice to give the reader an idea of the effect of such a setting on everything to do with military operations.

In the logistic field, it is impossible to rely on local resources, thus necessitating long and difficult transport from distant bases; in the operative field everything is subordinate to the concentration of supplies at the bases of departure and the availability of suitable communications; on the battlefield there are difficulties of orientation and communication, limited range of fire and of land and air observation, restrictions to the movement of large or small detachments off the beaten track, danger of surprise attacks favored by the vegetation and finally, the tremendous difficulty of speedily withdrawing detachments engaged in battle if need should arise.

All these points merit further examination which is attempted in the following notes.

The Services

General:

The subject of "services" is a thorn in the side of every command. It is a meticulous task requiring daily and hourly patience; everything must be provided for the regular supplies and evacuations and all preparations made for sudden and unforeseen necessities. The great machine of any army in battle must be fed without respite. All this becomes much more serious in the case of a colonial army operating, as in this case, in an immense territory where it is frequently necessary to transport even the water supply. For here the only local resources consist of firewood—of which there is indeed a plentiful supply—sticks and brushwood for building "harisc" (rectangular huts) and "tucul" (round huts with conical roofs), a little meat on the hoof and a little "dura" (dura is a cereal widely used by the natives which serves as fodder for the camels and mules). But even a supply of meat and dura cannot always be counted on.

Roads:

At the beginning of our military preparations, after the Ual-Ual incident, no properly constructed roads existed in Somalia. There were some good trails through the woods connecting the principal villages. In Abyssinian territory the situation was very similar and certainly no better. These trails were quite adequate for the few motor vehicles in circulation in normal times, and long stretches could be covered at high speed with perfect safety.

The trouble began when these few motor vehicles were replaced by long columns of heavy trucks in continuous movement.

In general, the natural beds of the Somalian trails are of rock, or of red, white or grey earth.

The rock beds are of course the best; they are at times rough and irregular, but can be used in all weathers. Unfortunately, they are relatively rare.

The red earth, where the interesting constructions of the termites abound (as in the Iet, Goddere, Gherlogubi, Uarder, Gardo and Garoe zones), also constitutes a good roadbed in all seasons.

It is otherwise in the case of the white and grey earth which unfortunately is the most frequent. During the dry season they soon become beds of sand through which the cars move with difficulty in a permanent cloud of fine

dust which penetrates every part of the machine and covers the faces of the travelers with a mask of clay.

It is necessary to run almost the whole time in first gear, which entails heavy consumption of fuel and oil, great wear of the motor, strain of the body, fatigue to the driver and slow speed (an average of less than 10 kilometres per hour). In the worst places the cars get stuck in the sand and the crew have to dig them out. Sometimes they have to unload and use another truck to haul them out. But by hard work and persistence, the journey is accomplished.

In the rainy season conditions are still worse. The first storm turns the road surface into a soapy mush through which it is hard to drive a truck. If the rain continues the trail becomes a running torrent of mud and is literally impassable. The driver will then try to deviate through the virgin woodland at the side of the trail but sooner or later he will be blocked by an impassable stretch. The scene that follows is always the same: vain attempts to extricate the truck by running in first or reverse; the crew dismounts, unloads the truck and gathers stones (if there are any) and branches to put under the wheels while they try to pull it out by force. During the rainy season such a group of men thus engaged may frequently be seen; if they are natives the scene is very colored and interesting. Under the command of the leader they man the ropes and to the rhythmic cry of "Abd-El-Kader-Geilani! (Geilani is the name of a saint very dear to the Prophet and much venerated by the Musselmen) they try to get out of the bog.

In this way it takes from four to six hours to cover one kilometer and not infrequently the column is completely blocked. Then there is nothing to be done but organize and camp and wait for the ground to harden.

Now, of course, conditions are improved; there are thousands of workmen on the trails, but their task is always a hard one and it is difficult to find any useful material on the spot. Often it is necessary to bring rocks from distant quarries.

Besides all this the distances are enormous. A few are given below: From Mogadiscio to Baidoa, 260 km.; to Lugh Ferrandi, 420 km.; to Dolo, 495 km.; to Neghelli, 780 km. From Mogadiscio to Belet Uen, 365 km.; to Gorrahei, 615 km.; to Gabredarre, 635 km.; to Dagahbur, 840 km.; to Giggica, 1,000 km. From Belet Uen to Callafo (left bank of the Uebi), 220 km.; to Danan, 370 km.; to Harrar, 790 km. From Obbia to Rocca Littorio, 240 km. From Bender Kassim to Rocca Littorio, 800 km.; to Uarder, 870 km.; to Gorrahei, 1,000 km.

And yet no one complains; there is, rather, a lively enthusiasm for these long runs which keeps the traveler's attention always alert and satisfies his spirit of adventure.

Transportation:

On the Somalian front, then, all services hinge on transportation. First and foremost, maritime transport.

Supplies are ordered from the home country on the basis of consumption estimates. The figures of these estimates are astounding both in regard to tonnage and to the distance between the ports of loading and unloading (for example, from Naples to Mogadiscio, 3,718 marine miles—about 7,000 kilometres); in spite of this there was never any shortage of material, nor did the well-equipped Italian merchant marine have any difficulty in handling the traffic. Nor were the unloading operations ever interrupted even in the period of monsoons, when even the simple operation of going aboard or landing from a ship becomes an adventure.

When all the material is collected at the coastal bases there begins the exodus of trucks towards the various points where supplies must not lack even during the rainy season when transportation is largely restricted.

There are thousands of motor trucks continuously on the move, regulated by a single organization which studies routes, loads, schedules, etc., so that each truck may render the maximum service and the intermediary bases and most advanced posts be properly supplied.

In the midst of all this it suddenly becomes necessary to handle the transportation of a large number of troops for offensive or defensive purposes. At this point some figures are necessary to complete the description.

The transportation of a native battalion without mule train, including only a few mules for the officers (the Ascari march very rapidly, from 5 to 6 km. per hour over stages of 30 to 50 km. in 24 hours and for several consecutive days) and with two days' supply of water, food and ammunition, requires 50 to 55 trucks (including one or two water tanks).

The transportation of a small caliber battery (75/27) without mules, with only two days' supply of food and water and ammunition (2,000 rounds) requires 18 trucks.

To supply one day's rations of food, water and ammunition to a native battalion with mule train, 7 trucks, that is 3 ordinary trucks and 4 water tanks are required.

These figures have to be multiplied by three, four and even ten times. Columns kilometres long struggle through sandy trails or lakes of mud. The services and truck drivers well merit our grateful admiration.

Water Supply Service:

If necessary it is possible to miss a meal or even to do without eating for a whole day. This may even do one good. It is also possible to fire one's last round without excessive anxiety. But under the tropical sun it is impossible to do without water. Yet here this simple beverage is rarer and more precious than gold. Where there is water it has to be brought up from great depths. The Abyssinian authorities had not taken much interest in this matter. They had left it to the natives who, with their customary indifference, were satisfied to move from place to place with their livestock, their "mundul" (dismounted huts carried on camels) and their few goods and chattels, according to the season, and to drink together with their animals from a muddy pool in which they had first carried out extensive ablutions. In fact, a pool of sulphurous water is much appreciated by the natives and a camel likes nothing better than brackish water.

But for white men this is not sufficient and even for native troops it is necessary to have an ample reserve of water for men and beasts.

Each detachment therefore carries with it a reserve of water in skins, barrels, tank trucks and carts. It also takes filters and stills to remove the impurities and provide good water for drinking. There are special squads of men for the installation of pumps and reservoirs.

Finally, mention should be made of the chemical detachments with their instruments, animals (for experimental purposes) and water testing apparatus.

Supply Service:

An approximate idea of the activity of the supply service (in regard to food, clothing and equipment) may be derived from consideration of the following points:

(a) difference in the rations, clothing and equipment for metropolitan, arabo-somali troops and Erithrean Ascari;

(b) perishability of some articles of food;
(c) necessity of building up sufficient reserves for the rainy season.

There are enough other details to fill a book. For instance, there is the distribution of meat. Mussulmen will not eat meat which has not been killed by a Mussulman with the usual Koranic rites. The Coptic Christians have similar rules. Canned meat for the natives must have been killed and packed in certain ways or they will refuse to eat it at the cost of prolonged fasts.

In the more distant zones it is difficult to find even a kid or calf, let alone a camel. For the natives do not like to sell their animals which, together with water, are their most precious sources of sustenance. Also the natives prefer to take payment in kind or for cotton goods than to sell for cash. At first the only goods accepted in exchange were white cotton materials for making cloaks. Then they began to accept colored cottons and many tinted shawls for the Somalian belles. When the eternal feminine element enters the question things are either complicated or settled. In this case they were settled. Money became necessary for the purchase of the shawls and to get money it was necessary to sell cattle.

To give an idea of the complex service of food supply a list of rations is given below:

For Italians:

Fish	100 grams	once a week
Meat	300 "	six times a week
Bread	700 "	
Salt	20 "	
Sugar	25 "	
Coffee	15 "	
Canned tomatoes	15 "	
Onions	10 "	
Spaghetti	200 "	four times a week
Rice	180 "	three " " "
Beans	60 "	" " " "
Potatoes	120 "	four " " "
Oil	20 "	
Cheese	15 "	
Wine	250 "	twice a week
Lemons	1 lemon	
Anise	1 cl.	" " "
Brandy	2 cl.	once " "
Jam	50 grams	twice " "
Pepper	0.5 "	
Vegetables (green)	80 "	once " "

On the days fish is distributed: 140 gr. of potatoes and 55 gr. of cheese; or if there are no potatoes, 55 gr. of cheese, 10 gr. of beans and 10 gr. of tomato conserve.

For the Arabo-Somalis:

Ration A, five times a week

Flour	550 gr.
Salt	15 "
Tea	15 "
Oil	60 "
Sugar	100 "

Ration B, twice a week

Rice	150 gr.
Salt	15 "
Oil	60 "
Onions	20 "
Tomato conserve	60 "
Tea	15 "
Sugar	100 "
Meat	250 or 500 on the hoof
Tobacco	10 gr.
Magad	10 "

For Erithreans:

Bread	700 gr.
Salt	20 "
Oil	20 "
Tea	20 "
Sugar	40 gr.
Tomato conserve	20 "
Spaghetti	150 " twice a week
Rice	150 " three times a week
Fresh meat	250 " twice a week
Canned fish	100 " " " "
Zighnic	100 " three times a week
Berberé	5 " four " " "

For the reader's information, magad is a kind of pumice which the natives masticate together with tobacco; zighnic is a canned meat made up with a number of drugs and berberé is powdered red pepper.

Medical Service:

The doctors must not take it ill if the precedence which is usually rightly accorded to the medical service has not been followed in these notes on the services.

This exception is made owing to the fact that on the Somalian front (as, for that matter, on the Erithrean) health conditions are excellent.

In regard to the Ascaris this was to be expected. The sober campaign life and the wholesome and regular food has had an excellent effect on these young soldiers, so that many of the illnesses suffered by civilians have entirely disappeared or have been considerably reduced among the magnificent troops of the Somalian Native Corps.

But in the case of the Italians it was a revelation, although it must be admitted that certain precautions had to be taken. It had been thought that the great heat and the extremes of temperature between the night and day would be fatal to the whites save under particularly comfortable conditions. It had even been imagined that it would be impossible to acclimatize large units of metropolitan troops in this colony.

In practice, however, the contrary was found to be true, even in the most torrid zones, such as Lugh, and the most advanced points along the 7th parallel—where by day the thermometer rises to 40 degrees Centigrade in the shade and drops to 20 degrees at night.

There were also stories of terrible poisonous snakes and still more fearsome beasts—a real disillusion for one who, during a year in the colony and five months under canvas, never came across anything worse than gazelles, jackals, hyenas, vultures, a few leopards, and never laid eyes on a snake or a lion.

Even malaria, which is fairly prevalent in some zones and some seasons had but limited effects, thanks, doubtless, to the valid work of the medical service towards both prevention and cure.

Sufficient proof was given by observing any Italian detachment clad in shorts and sun-helmets, with bare torsos, their solid legs, backs and chests bronzed by the sun. Even the natives were amazed to see the ease with which the Italian soldiers packed light and heavy machine guns on their stalwart backs.

But none the less the doctors had plenty of work. There was the normal percentage of illness, the cleaning up of the occupied territories (how filthy were the Abyssinian villages!), supervising of water supplies, organization of medical supplies, installation and direction of hospitals and medical services to civilian native sick which affirmed the sentiments of humanity and civilization which characterized our advance into Abyssinian territory.

Finally, there was the transportation and care of the wounded, a task which was not easy and often not free from danger. Thanks to able and prompt service and speedy transportation, sometimes by air, even those wounded by dum-dum or explosive bullets were often saved.

Much has been written already on the barbarous, ferocious and systematic use of such bullets. A reproduction is given herewith of three types of cartridges with uncased lead bullets (10.5 cal.) and cased lead bullets (7.5 cal.) with four lateral incisions—made in the factory—on the casing to facilitate expansion. On some of these bullets is imprinted an "S," which produces the same effect as the incisions.

The gravity of wounds produced by these bullets can be judged from the fact that on the cloaks of the Dubat who fought in the Battle of Hamanlei (north of Gabredarre) were found clean cuts in the shape of a cross with arms 10 cm. in length, caused by these projectiles.

Personnel:

Before the Ethiopian aggression at Ual-Ual, the armed forces in Somalia consisted of a company of tanks with a section of armored cars carrying machine guns, some camel batteries, a mixed detachment of Engineers, the Dubat boundary police bands and the Zaptie police. There was also a detachment of the Air Force and a minimum of service sections. Save for the officers, N.C.O.'s and some specialized troops, the remainder of the personnel was all colored.

The small size of this force is common knowledge; the cold eloquence of figures is sufficient proof of our actual intentions towards the Ethiopian Empire. But this is beside the question.

As soon as the enemy's menace became clear there arose the problem of rapidly organizing an army capable of confronting the warlike hordes of the Lion of Judah over a territory of 500,000 square kilometres and along a front of 800 kilometres (which is the distance from Domo on the boundary of British Somaliland to Dolo, on the boundary of Kenya). This fear, which was little short of miraculous, was quickly accomplished.

The first troops and material began to arrive from Italy. The natives, who had never seen such large ships, watched the arrivals with amazement. To their simple and primitive minds the judgment was soon formed, "Italian Government very great."

The old colonist watched with emotion and trepidation. What fate awaited these brave boys who came from the Italian winter into the heat of the tropics to camp in the Somalian woodlands? Nothing happened. Those same boys are here to witness to the solid qualities of our race which long habits of austere living and a deep patriotism has enabled to confront all tasks and climates, all enterprises and all perfidies with success.

Thus, in a relatively short time the little colonial military organization became an army ready to defend our rights and to repulse all attacks.

On May 24, 1935, this army marched through the beflagged streets of Mogadiscio. Italian infantry, artillery, blackshirts—all smiling and satisfied, the many-colored uniforms of the colored troops, and the hum of Italian planes in the brilliant skies above.

By that date, 24 May, 1935, the army on the Somalian front could be considered ready. It comprised metropolitan and colored units, the latter consisting of Arabo-Somali and Erithrean troops.

The Italian troops need no introduction. But not even through these columns could the reader learn to know the Italian soldier with his intelligent glance, his many dialects, his quick and shrewd judgment, and his incomparable capacity for adapting himself to anything, anywhere, with innate respect for discipline and bravery in danger.

The colored troops consist of Somalians, Arabs, and Erithreans. The Arabs are few in number. They are excellent soldiers in all respects, of quick intelligence, strong resistance to fatigue, good shots, calm in battle. They are distinguishable by their medium stature, dark olive skins and sturdy legs. They are Mussulman by religion.

The Somalian is tall, thin, black-skinned and carries himself with dignity. He is first and foremost a strong and speedy walker (marching with bare feet) and a very sober soldier. He moves through the woods with a security born of his native knowledge and with an instinctive sense of orientation. He can march thirty to forty kilometres a day for several consecutive days without effort. A man alone has been known to cover 80 kilometres in 24 hours at a speed of six kilometres an hour. His sight is acute, his hearing less so, his intellectual facilities elementary, he has great sensibility and the soul of a child. In order to command these men it is necessary to know their habits and customs, to listen patiently to long complaints, and to rule with equity and inflexible severity. Under fire they have fully confirmed their not very aged traditions. They surpassed all expectations, showing themselves to be first-class fighters, careless of pain, clever in maneuvering and very docile under the commands of their superiors. They were even too reckless of danger from fear of being considered weak and womanly.

Also in another field our Somalians gave an excellent account of themselves. They had been considered apathetic and incapable of performing any skilled labor or doing anything but building their primitive huts, digging wells, caring for their animals and carrying arms. But spurred by necessity and instructed by the officers they turned their hands to all kinds of work, proving themselves especially good at building roads, digging trenches and making barbed wire entanglements and fortifications. Thanks to careful supervision by the commands, they learned to submit to discipline, and all those differences in which the civilian population differentiates the noble and inferior races of Somalians were leveled out. They were always clean and even elegant with their well-kept and washed and pressed uniforms; they observe their religious rules scrupulously but without exaggeration, are devoted and respectful to their superiors. Such were our valiant Ascaris.

There are only a few Erithreans. They also are handsome, tall and slender, of distinguished carriage, and are very similar to the Somalians. They are Mussulman by religion, with some Coptic Christians and a few "Giaberti" (that is, converted Mussulmen who have returned to Islamism).

The grades of the colored troop hierarchy are as follows: "Ascari," "Muntaz," "Buluc Basci," "Jubasci" among the Somalians and "Sciumbasci" among the Erithreans.

In closing this chapter there is given a short genealogical table of the Somalian race:

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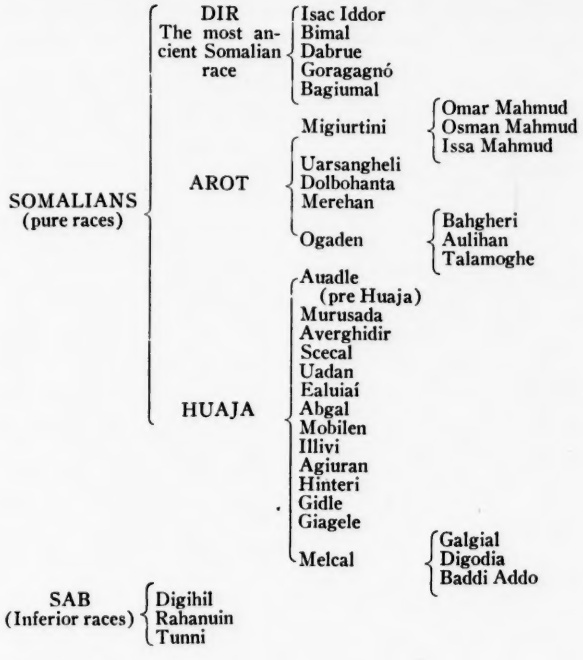


Livestock:

Originally all the supply trains in the colony disposed of only camels and small mules, with no horses. Later Italian mules were added. Still later we acquired as war booty some of the little native donkeys, useful and patient beasts.

The most important of all is the camel. Why it goes by this name when it is really a dromedary nobody knows; but no matter. The single-humped Somalian camel belongs to the "Africanus" genus, although it is not a race of its own. It lives in large herds along the maritime zone of the Indian Ocean, along the Uebi Scebeli and the Giuba and also in northern Somalia. It has an ugly head, bulging eyes, a tired and rather stupid expression. Nothing is more characteristic than a caravan with its irregular gait moving against the background of the woods or the crest of hills which in the hot hours appear like islands emerging from a motionless sea.

The Migiurtine camel differs in some points from the Somalian camel. It has a smaller head, shorter neck, vivacious eye, broad chest, long back, small and not very fat hump, long and muscular rear legs which give it a regular gait even going uphill. It has a thicker coat because it lives in mountainous regions, where the temperature is lower than on the plains.

Neither kind is suited to hauling work but both make good pack animals; specially selected ones make good saddle animals. They can resist thirst, fatigue and privations in general and are a most useful means of transport, especially in the plains where there are no motor roads and during the rainy season. They can sustain a speed of four kilometres per hour for eight to ten consecutive hours; well fed and trained camels will do five kilometres an hour.

Their normal food consists of grazing and "dura" flour. They especially like thorny bushes and young acacia branches; in the dry season they eat dried "dura" and corn stalks. When on the march they graze during the night. They prefer clear salty water to drink. They can do without drinking for several days, but it is always best to let them drink when possible. In any case, they should not be left without water for more than five days.

A camel requires little attention or shelter and when well nourished can easily carry a load of 100 to 150 kilograms.

The camel is subject to various diseases, some fatal or very hard to cure and others of little consequence. Bruises or wounds on the hump are very serious and often make the animal useless for packing, in which case it has to be killed. The meat is excellent eating and the Somalians are very fond of it.

The native mule is a neat little animal with a light neck, pretty head and intelligent eye. It is equally good as a pack or saddle animal. The saddle mule's gait is an amble, but it can also trot or gallop, although it should not be ridden too hard. It is a quiet animal and easily handled. It is not shod and is sure-footed even on rough ground.

The Italian mules are larger than the native mules and live up to the reputation they gained during the Great War. They are docile and tranquil and adapted themselves quickly to the new conditions. They prefer fresh grass, but will also eat the "dura" and dry fodder. They also did indispensable work in the African campaign.

The long caravans of camels and mules may be seen from dawn to sunset and often march even at night. They carry on under all conditions, insensible to wind, dust and heat. They become accustomed to the speedy motor vehicles which push past them on the trails.

Motor Vehicles:

The arrival of a motorized column is always an occasion for rejoicing. It is preceded by telegraphed notice, everyone waits anxiously, and the first sign of the accompanying cloud of dust is eagerly watched for. It brings all kinds of necessities—food, munitions, medicines, equipment and, more important than all, the mail. But the careful observer is not distracted by these considerations. He examines first of all the aspect of the crews. Faces and clothes are coated with red dust. In operations on the scale of those in Somalia the trucks are a coefficient of the first order. They are used in maneuvering, in combat, they ensure regular supplies and rapid evacuation. But nothing is indispensable in this world and if necessary we could do without them; wars have been won in the past even without internal combustion engines.

There are motor vehicles for transport and those for combat. On especially long marches the little tanks are carried by the big trucks. In case of need a tank will help a transport truck out of the mud. They admit no difficulties. When the woods are closed before them like a curtain they throw themselves against the obstacle, breaking down branches and shrubs. They cross the raging torrents. Each takes its part in combat. They work at all times and in all seasons. The continuity of the services must be ensured at all costs. They must be lubricated with the best oils and more frequently than usual—generally every thousand kilometres. The waters in the radiators must be frequently changed to avoid scaling and they must be periodically washed with a caustic soda base solution. Care must be taken to remove dust from air filters or the cylinders and pistons will be scored. The pressure of the tires must be carefully watched, as the great heat causes them to burst easily, and suitable types of tires must be used for each type of car. The loads must be evenly distributed. On reaching

their destination, instead of resting, they must be completely overhauled. And if a breakdown occurs on the road the repairs must be made as well as possible under the great heat of the sun and often within range of the enemy's guns.

Composition of the Native Troops:

With the exception of the Dubat, which are specially organized, the other sections—infantry, artillery, engineers and specialists—are constituted like the metropolitan troops. The only difference is in the platoon (gunners and machine gunners) which consists of a varying number of "buluc." The "buluc" is subdivided into squadrons.

Batteries are transported only on camels. In the munitions and food and water columns there are both mules and camels; all white personnel is mounted. As there is no rolling stock a great number of animals is required. By adequate division of supplies the units have been found to be light and easily maneuverable. Each unit is trained in the same way as in the metropolitan army. The results have been entirely satisfactory. Even before the beginning of operations the battalions and groups worked as well as the metropolitan units after the summer maneuvers. In combat they behaved as if on the drill ground, and demonstrated a wonderful spirit of enterprise and sacrifice, especially among the NCO's. In one action with a total of 38 casualties there were 11 NCO's killed and 7 wounded.

Who could doubt of victory with such troops?

Observation, Orientation, Communications:

Long experience of the country is not necessary in order to realize the tremendous difficulties which the troops had to overcome in this theater of operations. A deeper knowledge of the places does not diminish the first impression, but rather confirms it and accentuates the tiniest details. We have already mentioned very briefly the logistic difficulties. We will now examine the tactical field, first of all in regard to observation, for, without turning to Kleber, who said, "the soldier should have eyes in the back of his head," it is recognized that maneuver is based on observation. When there is little or no visibility it is hard to establish the number, disposition and situation of the enemy, to move units, to take safety measures, ensure communications, recognize objectives, and to direct fire. This is usually the case on the Somalian front. In the immense labyrinth of the woods the eye seeks in vain for a loophole and a distant horizon. Optical instruments are of little use. It is even of little benefit to climb a high tree and attempt to see over the dense curtain. The wind itself connives to confuse the origin of distant dust clouds. Only on windless days when the atmosphere is motionless is it possible to recognize the unmistakable wake of a moving column. Even planes can observe only with difficulty, especially as the enemy has learned to travel only at night.

Naturally the obstacles are still greater when it comes to moving units. Then there arises the serious question of orientation. In a terrain completely void of landmarks, with few communications, almost uninhabited, orientation can be based solely on the stars and instruments, and even the most able run the danger of losing their bearings. It did happen, in fact, that small units completely changed their direction and after wandering vaguely, found themselves far from their pre-established objectives. It is still worse for isolated persons or airplanes. The planes can be taken considerably off their course by the wind, which in the monsoon season blows continuously. A high grade of instruction and constant checking of the direction is needed in order to avoid this danger. It is especially advisable not to wander far from the beaten tracks. It is, therefore, easy to understand the limitations which are enforced on some types of communications.

Messengers on foot or horseback or in cars can be used only in well known zones. Bicycles have to be completely set aside. For long distances it is preferable to use colored men as foot messengers, as they are quicker than the whites. They must be ensured a minimum of water. The camel runners were found most useful in trackless zones. Homing pigeons cannot be used as they would easily fall prey to the vultures.

Visible signals (flags and photoelectric apparatus) are not of great benefit and can only be used under certain conditions. They always have to be provided with some means of raising them above the obstacles which renders them heavier and delays progress. In the middle of the day optical instruments are hard to use because of the refraction; at night they are more advantageous. For examples, 80mm photoelectric stations are unutilizable by day whereas by night they have a range of at least 25 kilometres; on moonless nights their light can be seen for over 100 kilometres.

Telegraph wires take a long time to instal and a large staff for maintenance. The installation is frequently damaged by large animals or termites, which attack the posts and are capable of eating them through in 24 hours. In the more advanced sectors the lines may be put out of action by the enemy or messages may be intercepted. In general, the most efficient methods of communication for short distances are messengers, megaphones, signals, and for great distances, radio and planes.

In this colony radio works better than in Europe. For example, the R3 station has a radius of 25 kilometres in Italy and 60 in Somalia; the R4 station has a radius of 100 kilometres in Italy and 250 in Somalia. The only difficulty is the delicacy of the instruments, which may be damaged in long transports over rough ground. There is less danger of this if transport is done by pack animals rather than by truck. But thanks to careful distribution, no serious setbacks occurred in the radio service.

The airplane is an expensive means of communication, but there is nothing better for urgent transportation of commanders of large units, for delivering important and confidential operating orders, and similar services. It is sometimes even a quicker method than radio as it eliminates coding and decoding operations and, by day, is not subject to set schedules. Thanks to the speed and high cruising radius of our planes, the great distances are not a great hindrance to this service.

Estimation of Distances. Finding of Objectives. Fire:

Without lingering on other subjects, such as information, we will examine the effect of the woodland on the fire of the various arms, rifles, machine guns, cannon. After what has already been said it is easy to imagine the difficulties in finding and sighting targets, estimating their distance and firing accurately.

Beside all this there are the phenomena of refraction and mirage which render optical instruments (field glasses, telescopes, goniometers, telemeters, etc.) entirely useless for a great part of the day.

Thus firing conditions are unfavorable owing to the thickly covered terrain, slow communications, difficulty of referring objectives to well defined topographical points and of estimating the distances, poor observation condi-

tions and material obstacle of the thick vegetation. The range of artillery fire is affected by the vegetation (short distances for the height of the trajectory). Save in the case of large masses at short distances from each other, or in wide clearings, the targets are generally hard to see, consisting of small groups of scattered men.

In rifle shooting, it becomes a case of pigeon shooting at very close range. The possibilities of the machine guns are also very limited as they generally have to fire above and between their own troops.

The question of artillery fire is closely connected with the problems of employment, and these again should be examined in relation to the characteristics of the war in wooded country, the armament and method of combat of the enemy and the limitations imposed by conditions. Such an examination would entail repetition of what has already been said and the discussion of subjects which lie beyond the scope of this article.

Thus it may briefly be said that in Somalian territory artillery would generally be employed during short joined battles and more rarely against fortified positions. Its main function is to facilitate the advance of the troops and protect their halts in the regular way. But in practice its possibilities are limited for various reasons, the first of which is the difficulty of defining the objectives and the lack of good natural observation posts which have to be replaced by special portable ladders. Then, the proportion between the range and the ordinatc of the trajectory in flat terrain with high vegetation entails shooting from greater distances than would be ordinarily required in order that the projectiles should not be deviated by branches. This means that adjustment is very slow and often uncertain; it cannot be done by percussions as the arrival of the shot cannot be seen, and time adjustment is made difficult owing to the dispersion of the points of explosion. In any case, it entails a high consumption of ammunition which is never advisable, especially in places where immediate supply is effected only by camels. Finally, in firing over one's own troops when, as often occurred, it is impossible to calculate the distances sufficiently closely, it is necessary to increase the safety margin considerably.

On the other hand, artillery fire is not hindered by sharp dead angles and benefits by the good conditions offered by flat or rolling ground.

Save for the influence of atmospheric conditions on navigation, there are no difficulties in regard to firing from the air. It is in fact particularly efficacious against clearly defined moving targets owing to the difficulty for land troops to find cover save in the vegetation itself.

Maneuvering. Cooperation Within the Units and Between the Various Arms:

At the beginning of "Ninety-Three" Victor Hugo describes the march of a battalion through the wood of Asudraie in Astillé. There is no woodland in Europe to compare with that of the equatorial forest. The discomfort of pushing through the thick undergrowth, the difficulty of seeing, establishing position, maintaining communication, the menace of ambushes, are aggravated by the great heat and the lack of all resources, including water.

In such circumstances it is necessary to have first-class commanders and well trained and obedient troops ready to seize advantage whenever possible against an aggressive, barbarous and fierce enemy superior in numbers. A battle in the Somalian woodland is very like a battle in the dark or in the fog. The attacker is always uncertain of the size and intentions of the enemy forces. The defender is unable to make use of long distance fire except in specially organized terrain. In both cases the action of the command is retarded and complicated. On the other hand, the brush never entirely impedes maneuver. It is a cover for movements and favors surprise attacks; it considerably attenuates the effects of the enemy's fire. It does not absolutely impede the action of tanks and other modern methods. It also makes it possible to withdraw advanced units from the fight unostentatiously. It is in fact good terrain for troops who are able to take advantage of the demoralization produced in the enemy by the larger and swifter instruments and take to the bayonet and dagger and the Somalian knife.

The problem of security is always of the first importance. It is of interest to all departments and services. Each command, each unit, each echelon must in certain regards be considered as isolated. This also holds good for the supply trains and motorized columns taking supplies up to the front lines. Therefore there must be security in front, behind, on the flanks, always, in movement and in repose.

There must be sentries and patrols to safeguard all halts; careful marching arrangements with flank formations, short distances, identification signals, good communication and adequate arms. The aviation played a valuable part in the question of security by observing the movements of the enemy, harassing them and keeping in constant contact with their own forces in regard to the enemy's movements and possible attempted attacks on the flanks or in the rear. This function is particularly important in that the problem of security on the battlefield may be considered solved when there is a prevalent air force and the land command is capable of maintaining close communication with the planes.

Fighting in woodland has also the following characteristics: in attacking it allows careful approach followed by swift assault; in defense it requires extensive observation work, perfect organization, great discipline of the troops and prompt counter attack in harmony with the firing.

Thus both in attacking and defending there is constant maneuvering. The general rule is to engage the enemy on his front and send the greater part of the forces under cover to attack his flank or rear. As soon as he begins to lose ground, concentrate all forces and give no quarter. In the conditions described it is not always easy to ensure cooperation between sections of the same detachment and between units of different detachments. There are the obstacles of the dense vegetation, poor visibility and slow communications. Recognition of a difficulty does not entail its neglect; it is all a question of training, method and will. A general with a wide knowledge of colonial conditions has written, "the reflection necessitated by a sense of responsibility must entail no slowness and must under no circumstances hinder operative necessity."

It was thanks to a knowledge of conditions and the good results given by the various equipment, to the high standard of training and the efficient direction of operations that during the actions on the Somalian front all parts of the forces—infantry, cavalry, militia, machine-gunners, tanks, armored cars, artillery, engineers and air force—worked together in harmony.

Conclusions

Although it was necessarily hampered by the logistic difficulties, the war on the Somalian front was essentially a war of movement. It was an extremely complicated enterprise in which the heroism of soldiers and isolated acts

of initiative attained surprising results, but which, above all, was dominated by the Chief—in the past more hesitant than Fabio Massimo, now swifter than Napoleon, an enterprise in which the relations between strength and distance made it extremely difficult for a general to establish the place and time to send the greater part of his forces against the enemy for the decisive battle. It was a war of vast range in which the final hand was played not in the narrow space of a single position but in an immense territory, against aggressive and ferocious hordes equipped with modern arms and working in their home territory.

But the Gauls were also brave fighters and more numerous and no worse armed than the Romans. And Caesar vanquished them because the Gauls of Vercingetorix lacked unity and the Gauls were a disorderly horde without discipline.

The brief notes given above are not intended to describe events but to give an idea of the salient characteristics of the military operations on the Somalian front. If this end has been attained they will contribute towards giving a new "technical sensation" of the effort which is being made. If we should wish to go beyond these objective facts to the origin we would find other and greater motives for legitimate satisfaction. For our successes are the most evident demonstration of the wisdom of our doctrine, the high capacity of command, the efficiency of our organization, the humanity of our discipline and the valor of our soldiers.

But above all these successes go to prove the strength of the spiritual discipline, the solidity of mental and cultural preparation which in fourteen years the Facist Regime has been able to inculcate in a nation of forty-four million Italians without a single exception. Which in itself constitutes a great victory.

THE BEST POLICY FOR MAINTAINING DISCIPLINE

By Major General George Barnett

(Quoted from personal memoirs)

■ "I have always found during my long service that one can have duty well performed, in fact better performed, by having a happy peaceful command. I never did believe that in order to get better efficiency one must be a martinet; in fact, I have found it quite the opposite. I believe in strict discipline but I abhor nagging. I believe in quick, firm decisions; I believe in reprimanding officers and men when necessary but I never have believed in reprimanding an officer or man in a way to hurt his feelings and pride. The object of a reprimand should be to correct faults so as to get better service in the future and this cannot be done if a sore spot is left, for I have always believed that better duty is done on account of confidence and loyalty rather than through fear. I think that the trouble in the service, and in fact almost every case in question over disobedience of orders, comes from the fact that the order disobeyed never should have been given. Early in my career I remember the definition an old officer gave me of discipline. He said that true discipline consisted in never giving an order that was likely to be disobeyed. While this cannot be taken absolutely literally, it is almost literally true at least—so I have found it in my service. Officers and enlisted men are inclined to obey orders and those that are disobeyed are in ninety-nine cases out of a hundred orders that should not have been given, or that were given in a way that was unnecessarily harsh, or in a way to create anything except the spirit of cooperation, for without cooperation there is no success. Success can be accomplished by teamwork.

ARMY AND NAVY MEMORIAL WINDOW

■ The great Cathedral of Saint John the Divine, Cathedral Heights, New York City, is to contain a beautiful memorial window to honor the heroism and valor of the military and naval Service.

For several months, the Dean of the Cathedral, Dr. Gates, has been corresponding with a representative of the Marine Corps, with regard our contribution to the window. After conference with the Major General Commandant, Major General Holcomb, it was decided to secure the opinion of our former Commandants, and to send the names they suggested, as well as those nominated by the Commandant, to Dr. Gates for his selection. It is notable that Brevet Brigadier General Archibald Henderson was mentioned by General Holcomb, General Lejeune, General Fuller and General Russell. Without knowing this, Dr. Gates also made General Henderson his choice.

The names of other distinguished officers of the Marine Corps, also submitted to the Dean, were as follows:

First Lieutenant Presley N. O'Bannon,
Major General Charles Heywood,
Colonel Robert W. Huntington,
Major General George F. Elliott,
Major General John A. Lejeune, and
Brigadier General Robert H. Dunlap.

One additional name was furnished, that of Julius the Centurion, a member of Augustus' band, into whose custody St. Paul was placed to bring him before Caesar in Rome. He appears to have been a merciful and kindly guardian, who efficiently performed his task, after a number of sea voyages, and at least one shipwreck. He was chosen by Chaplain Edwin B. Niver as the namesake of the chapel at the Marine Barracks, Quantico, Virginia, which is known as "The Chapel of Julius the Centurion." He was a seafaring soldier, and considered most appropriate to represent the Marine Corps in the memorial window, if allegorical or Biblical figures should be chosen by the Army and Navy.

The Army list submitted, was a long one, and included the following:

St. Cornelius,	St. Alban,
St. Augustine,	Pope Leo the Great,
St. Martin of Tours,	Charles Martel,
The Black Prince,	Ferdinand and Isabella,
St. Louis of France,	John Sobieski,
Sir Philip Sidney,	George Washington,
Robert E. Lee,	Ulysses S. Grant,
General Pershing,	General Foch.

The Navy list included the following:

Christopher Columbus,	Admiral Drake,
John Paul Jones,	Admiral Dewey,
Admiral Farragut,	Admiral Sims.

Dr. Gates has been furnished with a photograph of the painting of General Huntington, which hangs in the quarters of the Commandant of the Marine Corps, and a copy of the halftone engraving in colors by the talented artist, Lieutenant D. L. Dickson, Marine Corps Reserve, which appears on the cover of the Marine Corps Gazette for November, 1936.

The window is by Mr. Lakeman, who has completed the lay-out, and who will very shortly begin work on the glass. The design is reported splendid, and some time during this year, when the window has been finished and erected, those who are interested in this memorial, should visit the Cathedral to see it.

SELECTION OF OFFICERS, A. D. 1815

By Captain Leo F. S. Horan, U.S.M.C., Retired

■ The selection of officers of the United States naval service, today, for promotion in rank, and the consequent enforced retirement of those not selected, has caused some heartaches but also many a joy. To those who have been disappointed and see in the near future their return to civil life, some consolation may be had from the fact that their lot was not as, what some may call, ruthless as was experienced by those who were not selected under the method of selection of officers used in 1815. Then it was, after the termination of the War of 1812, that Congress determined to reduce the strength of the United States Army. This involved the selection of 489 officers out of a total of 2,271 for retention in the new military peace establishment. Naturally, there were then, 121 years ago, joy for the selectees and gloom for the non-selectees. One very important difference between that system and the present system is, that those not selected for retention in 1815 were not retired. They were discharged within about three months after Congress determined upon a reduction of the Army.

Congress, by the Act of March 3, 1815, declared that the military peace establishment of the United States, with a then total authorized force of 62,448 officers and men in the regiments and corps, and 140 aggregate strength of the Corps of Engineers, shall consist of not exceeding, in the whole, 10,000 men, and that the President cause the supernumerary officers and men to be discharged from the service of the United States from and after the first day of May next (1815), or as soon as circumstances may permit.

President Madison on April 8, 1815, called to Washington Major Generals Brown, Jackson, Scott, Gaines, Macomb, and Ripley for duty as a board of general officers to aid in forming the (reduced) military peace establishment. (Major Generals Jackson and Gaines could not attend in consequence of the distance of their quarters from Washington, and the urgency of the service required in the military districts in which they commanded.)

In assigning to that Board the specific matters upon which it was to report, the Acting Secretary of War, A. J. Dallas, in his orders of April 8, 1815, indicated three points to which a just respect was to be paid in their future deliberations:

"1. The organization of the Army.
2. The selection of the Officers.
3. The Military Stations."

The organization of the Army was to be based on the Act of March 3, 1815. It was the opinion of the War Department, and so stated to the Board, that the terms of the Act were to be interpreted that the military establishment, so far as it is composed of artillery, infantry, and riflemen, was to consist of 10,000 men, exclusive of officers, non-commissioned officers, and musicians. And the Board was directed to furnish the necessary details for forming the new military peace establishment into brigades, regiments, battalions and companies; special provision having been made for the organization of the corps of Artillery by the Act of March 30, 1814; for the organization of the regiment of light artillery, by the Act of April 12, 1808, and for the regiments of infantry and riflemen as prescribed in the Act of March 3, 1815.

In the matter of the selection of the officers to be retained in the reduced establishment, the Acting Secretary of War stated:

"The reduction of the military establishment to the number of 10,000 men sufficiently indicates the intention of Congress to be, that the officers, non-commissioned officers and privates should be selected and arranged in such manner as to form and complete an effective corps. It is, undoubtedly, a painful duty to make a discrimination which affects the interest and possibly the subsistence of honorable men whose misfortune it is by age, by infirmities, or by wounds, to be disabled from rendering further service to their country: but the task must be performed by those who are charged with the execution of the law, leaving the relief which may be justly claimed by suffering merit to the beneficent care of the legislative authority.

"It is the opinion of the President, therefore, that in the selection of the officers to be retained upon the military peace establishment, those only should be recommended in your report, for his approbation, who are at this time competent to engage an enemy in the field of battle.

"The number of field officers now in service amounts to 216 and the number of regimental officers now in service amounts to 2,055. Of the former, about 39, and of the latter, about 450 can be retained in service, according to the provisions of the Act of Congress for fixing the military peace establishment. In every grade of appointment, almost every officer has gallantly performed his duty. It is obvious, therefore, that with respect to the field officers and the regimental officers, as well as with respect to the general officers, men of high military merit must unavoidably be omitted in the present organization of the Army. It has not been, and it never can be, under such circumstances, a mark of disrespect, or a subject of reproach, to omit the name of any officer; and the President wishes it may be distinctly understood that, from the selection of officers, nothing more ought to be inferred than his approbation of the selected individuals, without derogating, in any degree, from the reputation and worth of others.

"It is the President's desire, upon this important point, that distinguished military merit and approved moral character should form the basis of all the selections which your report shall submit to his consideration. Where, in these respects, the claims of officers are equal, length of service, a capacity for civil pursuits, and the pecuniary situation of the parties may justly furnish considerations to settle the question. And where neither direct nor collateral circumstances exist by which your judgment can be fixed, you will find a reasonable satisfaction, perhaps, in referring the decision in this case, as is done in many similar cases, to the chance of a lottery; or you may submit a recommendatory list, leaving the selection entirely to the Executive. Great pains have been taken to collect and preserve the testimonials of military merit; and these, with all the other documents of the Department which can assist your inquiries, will be confidentially placed before you. It is not doubted, therefore, that your report will be as advantageous to the Government as it will be just to the Army. A result at once impartial and effective will not only correspond with the President's views, but must command the approbation of every honorable mind; and it is, in particular, believed that an appeal may be con-

fidently made, in the performance of so arduous a duty, to the candor of your military brethren, whatever may be their personal disappointment or regret."

Upon the third point, the Military Stations, the Acting Secretary suggested to the board a general division of the United States into a Department of the North, and a Department of the South, with a proper apportionment of troops.

On April 17, 1815, the Acting Secretary of War expressed to the Board his additional views connected with the execution of the Act of March 3, 1815, as follows:

"I. Corps belonging to the Army, which are not expressly retained by provisions of the Act, are to be discharged.

The corps expressly provided for, are:

1. The corps of artillery.
2. The regiment of light artillery.
3. The Corps of Engineers.
4. Regiments of infantry and riflemen.

The corps not provided for, are:

1. The regiment of light dragoons.
2. The Canadian volunteers.
3. The sea-fencibles.

"II. The officers of the general staff employed in the command, discipline and duties of the Army, who are not expressly retained by the provisions of the Act, are to be discharged.

The officers provided for, are:

1. Two major generals, with two aids-de-camp each.
2. Four brigadier generals, with one aid-de-camp each.
3. Four brigade inspectors.
4. Four brigade quartermasters.

The officers not provided for, are:

1. All the general officers, except the six above mentioned.
2. All the officers of the Adjutant General's Department.
3. All the officers of the Inspector General's Department—four brigade inspectors being substituted.
4. All the officers of the Quartermaster's Department—four brigade quartermasters being substituted.
5. All the officers of the Topographical Department.

"III. Departments which do not form a constituent part of the Army are preserved, except so far as the Act of Congress by express provision, or necessary implication, introduces an alteration."

The Acting Secretary of War, in the same order, then enumerated the departments preserved and those abolished by the Act. Those preserved included: The Ordnance, Purchasing, and Pay Departments; office of the Judge Advocate, the Chaplains, and the Military Academy.

The Hospital Department was not preserved, as was pointed out to the Board in the following statement: "The Act of March 3, 1815, provides for regimental surgeons and surgeon's mates, and for such number of hospital surgeons and surgeon's mates as the service may require, not exceeding five surgeons and fifteen mates, with one steward, and one ward-master to each hospital. From this specific arrangement, it is necessarily implied that the physician and surgeon general, the assistant apothecaries general, and all the hospital surgeons and surgeon's mates, garrison surgeons, and surgeon's mates, except the above specified number, are to be discharged. The physician and surgeon general, and the apothecary general, were appointed, the better to superintend the hospital and medical establishment of the Army of the United States, under the Act of March 3, 1813; and the Act of March 30, 1814, authorized the President to appoint so many assistant apothecaries as the service might, in his judgment, require. The occasion for the appointments under both Acts has ceased; and the Act of March 3, 1815, meant to provide a substitute for the whole department, according to the demands of the peace establishment."

That the abolishment of certain departments was deemed to present difficulties to the Board, is evidenced by the remaining paragraphs of the order:

"Upon this analysis of the Act of Congress for fixing the military peace establishment, the President wishes to receive any information which you think will tend to promote the public service, in reference to the following inquiries:

1. The best arrangement to adapt to the peace establishment — the Ordnance Department — the Purchasing Department — the Pay Department — and the Military Academy.

2. The arrangements best adapted to render the medical establishment competent to the garrison, as well as to the regimental service.

"It is obvious that considerable difficulty will arise if the Adjutant General's and the Quartermaster General's departments should be immediately and entirely abolished, and if the garrison surgeons should be immediately discharged. The President is desirous to execute the Act of Congress, as far as it is practicable and safe, on the first of May next; but he is disposed to take the latitude which the Act allows in cases that clearly require a continuance of the offices for the necessary public service. You will be pleased, therefore, to state—

1. Whether, in your judgment, the continuance of the office of Adjutant and Inspector General is necessary for the public service?

2. Whether, in your judgment, the continuance of any, and which of the offices in the Quartermaster's Department is necessary for the public service?

3. Whether, in your judgment, the continuance of any, and which of the offices in the Medical Department, not expressly provided for by law, is necessary for the public service."

Having obtained from the board of general officers "the most valuable assistance," and having diligently collected from every proper source of information the necessary materials for deciding upon the various subjects involved in the execution of the Act of March 3, 1815, the Acting Secretary of War submitted his report to the President under date of May 12, 1815. He therein stated it was soon found impracticable to obtain from all the military districts the information which was requisite to do justice to the Army, and to the nation, in reducing the military establishment to a force of 10,000 men so early as the first of May, and that it was obvious that circumstances do not even yet permit the entire reduction contemplated by Congress, with regard to the settlement of the numerous accounts depending in the quartermaster, commissary, and pay departments, and the medical care of the troops at the many military stations to which they must be apportioned.

The result of these labors was laid before the President, for approval, in the form of four General Orders, dated May 12, 1815, as follows:

No. 1, announcing the military divisions and departments of the United States; the corps and regiments constituting the military peace establishment, and the distribution and apportionment of troops. The United States

was thereby divided into two military divisions, each division being subdivided into military departments—the Division of the North, with five military departments; and the Division of the South, with four military departments. The Corps of Engineers being retained as then established, the men were distributed in the following proportions:

Corps of Artillery	3,200	men
Regiment of Light Artillery	660	"
Eight Regiments of Infantry	5,440	"
One regiment of riflemen	680	"
Total	9,980	men

No. 2, announcing the Army Register of May 17, 1815, for the peace establishment, which included the officers provisionally retained in service until circumstances permit their discharge.

No. 3, directing the supernumerary officers and men to be paid, discharging them on June 15th next, or as soon thereafter as the payment can be completed; paymasters, etc., to be deemed to be in service for the single purpose of rendering their accounts for settlement within a reasonable time. The following modifications were included:

"1st. That all the officers (not included in the arrangement) shall continue in command with the troops at their respective stations until they were regularly relieved by the officers who are retained on the military peace establishment; and that they will be held responsible accordingly for the due preservation of discipline and order. 2. That the supernumerary officers may be called upon to fill vacancies, should any of the officers who are nominated decline accepting their appointments in the military peace establishment, as the law authorizes the establishment to be formed and completed out of the several corps of troops now in the service of the United States * * *."

No. 4, requiring the six major generals retained to assume command and form their respective divisions according to the system announced for the peace establishment.

Those four General Orders were approved by President Madison on May 15, 1815, and thus were officers in the United States Army selected one hundred and twenty-one years ago.

A PROBLEM IN MILITARY SMALL ARMS

By First Lieut. Melvin M. Johnson, Jr., U.S.M.C.R.

I. STATEMENT OF THE PROBLEM

■ Modern infantry must attain maximum fire-power, coupled with mobility. Assuming that the service will, within a few years, be armed with a cal. .30 semi-automatic rifle, it is probable that the B. A. R. will become obsolete. (See on this: "The Semi-Automatic Rifleman," May, 1936, and "What's New In Semi-Automatics," November, 1935, Marine Corps Gazette; also "What Price Automatic," Parts One and Two, *Army Ordnance*, September-October and November-December, 1936; by First Lieut. Melvin M. Johnson, Jr., U.S.M.C.R.)

Armed with a semi-automatic cal. .30 rifle, and a .45 pistol, there is some question as to the desirability of including in the armament either a .45 Thompson submachine gun, or a military shotgun. It is submitted that this incidental question can be answered affirmatively. Such an intermediate class of weapon is quite essential. The Thompson is at present issued in the Marine Corps. Reference to this type of weapon will be found in the above-cited article, "The Semi-Automatic Rifleman." (See also "Damaging the Enemy," *Army Ordnance*, March-April, 1937, by the writer.)

Having the above points in mind, our problem narrows down to this: Shall we adopt the shotgun, the submachine gun, or a "combination arm" for the service?

II. COMMENT ON THE MILITARY SHOTGUN: GENERAL

An interesting recommendation of the shotgun has been presented recently in the Marine Corps Gazette ("A Study of Marine Corps Infantry Weapons," by Corporal Russell M. Catron, U.S.M.C.). The military "riot gun" is not new. Nearly all police departments have "sawed-off" 12 gauge guns. The Winchester pump-gun, or slide or trombone action, as you may prefer to call it, having a twenty-inch cylinder barrel, sling, and bayonet, was issued during the World War for trench fighting. There is no question about the deadly effect of buck-shot up to fifty yards. Beyond that the balls are widely scattered, and lose velocity rapidly. For riot purposes such a gun has one inherent defect: you can not isolate a target; therefore innocent bystanders are occasionally hit. In fact, buck-shot scatters so much that the target in the centre of the pattern may be unharmed.

There are many types and makes of this arm. Single-shot and double-barrel guns are hardly adequate for military purposes. The "automatic" shotgun is widely used by civilians. The only successful mechanism is based on the "Browning patent," manufactured by Browning Arms, Remington, and Savage. Based on many thousands of rounds personally fired from one of these guns, the answer is "no," for military use. Why? Well, try to strip one in a hurry. Count the parts and jams.

The pump gun is the best military prospect. Remington, Winchester, Savage, Stevens, and even Sears, Roebuck have these guns on hand. However, there are plenty of parts in the average pump gun, and they, too, are known to jam.

Twelve gauge is the most common, and shells of this size will hold more buck-shot, although many experts prefer the sixteen and twenty for bird shooting. The Marine Corps is not, however, concerned with bird shooting, except for the fact that someone periodically persists in winging the Dove of Peace.

III. COMPARISON OF ADVANTAGES: SHOTGUN

1. Availability in war-time: many commercial factories are prepared to convert commercial shotguns for military purposes, and provide shells.

2. Effective employment: most recruits can fire a load of buck-shot at one of the four points of the compass.

3. Bayonet: the shotgun can be supplied with bayonet attachments, thus making it useful as a bayonet handle.

4. Adaptability: men not qualified as marksmen with

the rifle, can be armed with a shotgun, and the battle-cry of Bunker Hill.

5. Close combat: for fighting in heavy woods, and bush warfare, the shotgun is more effective than the rifle, if not the sub-machine gun.

6. Close quarters: the shotgun is most effective in holding off attacking units within fifty yards of a defended position; also effective if employed by attacking units about to close in on enemy, and to cover off final rushes.

IV. COMPARISON OF DISADVANTAGES: SHOTGUN

1. Shells are clumsy, take up space, and can not be used in pistol or other arms.

2. Shells are usually made of paper, and may not stand up in service.

3. Men armed with shotgun are helpless against enemy rifle fire at ranges beyond seventy-five yards.

4. Buck-shot liable to hit friendly troops.

5. Shotgun dangerous to use at close quarters if any friendly troops have advanced beyond the firing line.

6. Shotgun gets out of order frequently in service.

7. Any new military shotgun action which might be designed, would eliminate the most desirable feature of this arm; namely, that at present many plants are tooled up for and in production of commercial models.

8. After having tried for centuries to increase the range, penetration, and potential accuracy of small arms, it seems rather futile to return to the smooth-bore again. Buck-shot balls lack "penetration."

V. COMPARISON OF ADVANTAGES: SUB-MACHINE GUN

1. The Thompson is capable of full or semi-automatic fire.

2. This gun can be aimed, and is capable of a fairly accurate, controlled fire.

3. It has an effective range of nearly 200 yards, yet is efficient at close range.

4. One 230-grain bullet is at least equal to one or two 12 gauge buck-shot for killing or stopping efficiently and the effect of buck-shot can be obtained by "bursts."

5. The ammunition is the same as that used in the service pistol.

6. This gun can be fired fifty times without reloading.

7. It has many of the favorable characteristics of a rifle.

8. The mechanism is fairly reliable, and may be dismounted easily.

9. It has not only three times the range of buck-shot, but much more penetration.

VI. COMPARISON OF DISADVANTAGES: SUB-MACHINE GUN

1. The Thompson is not suited for a bayonet.

2. It weighs ten pounds and is rather clumsy.

3. The movement of the breech block in semi-automatic fire disrupts the aim.

4. Full automatic fire is likely to be improperly controlled by hastily-trained operators.

5. The barrel tends to wear out quickly, and is difficult to replace in the combat zone.

6. It cannot be carried in a holster, and is therefore not suited for "ammunition carriers," or men having other primary missions to perform.

7. Although weighing as much as a semi-automatic rifle, the Thompson has a limited range.

VII. COMPARISON OF SERVICE PISTOL

1. The .45 Colt Automatic can perform some of the missions required of the shotgun or Thompson. It uses the same cartridge as the latter, and is reasonably effective at ranges up to forty or fifty yards.

2. The pistol is far "handier," and can be used by "ammunition carriers" and others having like missions.

3. Of course no hand-gun is as effective as a shoulder weapon, and the .45 is notoriously difficult for recruits to handle.

VIII. SUGGESTED METHOD FOR INCREASING EFFECTIVENESS: SERVICE PISTOL.

The service is urged to consider the old baseball maxim: "Two hands for beginners." The efficiency of any hand-gun is increased by the proper use of two hands, especially from the prone position. The old Landing Force Manual contains a picture of a sailor holding a pistol in both hands. Possibly that is an affectation, but two hands can increase the accuracy and effective range of a .45 surprisingly. One free hand is essential for cavalry, but the only "reins" the Marine Corps needs to worry about are those in the tropics.

Tests have been made of shoulder stocks for use on the .45 pistol, following the "holster-stock" developed for use with the German Luger pistol. These, apparently, were found undesirable. The Mauser pistol is furnished with a holster-stock, and has most of the characteristics of the sub-machine gun without entirely losing its identity as a pistol.

Further consideration of methods of adapting a holster gun to perform the mission of the shotgun or machine gun should be given, in view of the necessity of assigning a number of infantrymen to the duty of carrying ammunition for the larger automatic arms.

IX. POSSIBLE MODIFICATIONS IN INFANTRY ARMAMENT: GENERAL

For several years the Ordnance Department experimented with ammunition, cal. .276, for the semi-automatic service rifle. By using such ammunition each man could carry more rounds. However, partly as a concession to the .30 Machine Gun, it was decided to use the same ammunition, cal. .30 Mark I, in both arms.

It is interesting to note that during the World War the "Pederson device" was developed, which consisted of an attachment on the service rifle permitting .32 pistol ammunition to be fired automatically. This device was designed to be used interchangeably with the Springfield bolt for massed fire at short range. It was never used in service, however.

Suppose, however, we used a cartridge such as the commercial 25-20 "high-speed" with rimless case for both "Seven-pound" automatic rifle and "holster-stock" pistol, using the .30 Mark I in "machine rifles" and heavy machine guns. We might then issue more cal. .30 "machine guns," and employ this class of fire chiefly at ranges in excess of 500 yards, using the smaller arms for all short ranges. Each rifleman could then carry

many more rounds, and the men detailed to carry ammunition for the cal. .30 weapons could be armed with an effective "holster" gun in the form of a 25-20 pistol. The "machine rifle" could be built as a "semi-automatic," capable of being fired from the shoulder by expert riflemen. This arm could have a B. A. R. type magazine, but would not be discharged by releasing the breech-block from a rearward position. Thus the "rifle" would be highly accurate, "handier" than the B. A. R., yet capable of being fired at a cyclic rate in excess of one hundred rounds per minute. Men armed with this weapon would be "semi-automatic riflemen;" those armed with the 25-20 rifle, "infantry-men;" those armed with the 25-20 pistol, officers, "ammunition carriers," runners, signalmen, etc.

No soldier armed with a shoulder weapon should be "out of range" within 400 yards. Beyond that range only experts are effective. Consider the limitations of the shotgun here. The heavier "automatics" could be employed to stop armored cars, airplanes, and the like.

X. PROBABLE MODIFICATIONS: SPECIFIC

If, as is quite probable, the .30 Mark I semi-automatic rifle becomes the standard for troops, lighter-weight machine guns will be introduced. To maintain simplicity it is submitted that the pistol and sub-machine gun be combined into one arm. Such an arm should be carried in a shoulder or belt-holster, and should have an effective range of from 150 to 200 yards. Despite the fact that the .45 was adopted to provide stopping power, it is believed that recent developments in the .38 render it desirable for service use, more particularly because of increased range and penetration.

More of these cartridges can be carried per magazine. The ammunition is now being manufactured commercially. An improved pistol action can be made to handle this cartridge, and the resulting weapon would solve the problem with which we have been faced, especially if provided with a "shoulder-stock" or frame.

XI. CONCLUSION

1. It is concluded that the military shotgun would not be suitable and should not be given consideration in our small arms armament.
2. The sub-machine gun could be improved by combining it so far as possible with the pistol.
3. A .38 "super" automatic holster-stock pistol would be the most ideal solution, in conjunction with the advent of the cal. .30 semi-automatic rifle, light-weight machine gun, and .50 cal. anti-tank and AA gun.
4. The above suggestions are submitted, not necessarily as suggested solutions to the problem, but rather to stimulate further thought and study of this problem in our military small arms.

THE COCO PATROL

(*Continued from page* 43)

they ever came to Mastawas. It is probable that, had he been captured, we would have procured valuable information from him as to the bandit dispositions, and it is certain that his capture or death would have prevented the outlaws from gaining knowledge of our advance for at least another day.

In spite of the fact that with the escape of these two men we had lost any chance of further surprise and that, apprised of our approach, we could expect to meet the bandits in force at any time, there was a general feeling of relief at our arrival at Mastawas. Everyone felt that "the worst of the trip is over, now that we have reached this place, the first of the Spanish settlements and the first house of any kind to be seen in nine days. The last nine days have been as hard as any I have yet had. . . . The Indians were very much frightened. They were sure that we were to be attacked momentarily, and so they moved very, very slowly. Between this and the high water, it has taken twice as long as I had expected. . . . The river above is fairly well inhabited and there are trails which we can and will follow. If our Indians all leave, and our boats break up, we can still exist, and live about as well as we are now. Those sixty miles of country without a single house or source of supplies and no trails did not particularly please me, I must confess."[28]

As an illustration of the fact that troops, once committed to the hills in small wars, should not be pulled back into rest areas unless the period of recreation which can be given them is of sufficient duration in comparison with the travel involved to insure that the desired recuperation of the men will actually be attained, I quote the following: "I am sorry that my men and I ever went back to Puerto Cabezas. It was a long hard trip, softened everyone, got them out of the habit of woods living, and it has been a long drag trying to get them into shape again."[29] Some of the men in the *Denver* Detachment had been in Puerto Cabezas only four days before they were ordered back to the hills and none of them were there longer than ten days. This rest period was altogether too short in comparison with the month's travel involved in moving from Bocay to the coast and back again. The trip took much more out of them than their stay at Bocay during the entire interval would have done. However, it must be remembered that at the time the *Denver* Detachment was withdrawn from Bocay in June, there was no intimation that the Coco Patrol would be ordered to move out two weeks later.

With all hope of surprise gone, and with native beans, bananas and fresh beef added to our food supply to break the semi-fast of the past four days, I decided to lay over at Mastawas on the fifth of the month. Again from a letter of that date, "It is the first day's rest in a week, and it gave the men a chance to take a bath, wash clothes, etc. Also many of them have sore feet. These came about due to the rains which keep their feet wet and tender all the time, and most of them have worn out such socks as they had with them. Those feet are going to be among their best friends from now on and will spell success or defeat of my plans here."[30]

[28] Personal letter dated at Mastawas, 5 August, 1928.
[29] Personal letter dated at Mastawas, 5 August, 1928.
[30] Personal letter, dated at Mastawas, 5 August, 1928.

Leaving the advance element of the Coco Patrol at Mastawas, let us consider for a moment what was happening down the river. Lieutenant Cook had been left at Waspuc with orders to proceed as soon as transportation became available. By the night of July twenty-first, he had one large bateau and three small pitpans with which he planned to move the following day. Because of the shortage of boatmen, he carried outboard motors to supplement his small crews and to speed up the travel of the bateau. To give some idea of the difficulties which he encountered, I quote from his Record of Events.[31]

"Waspuc, 7-22-28. Strength (available): 1 officer, 24 enlisted. Weather: rainy; river, high. 1000. Left Waspuc. 1630. Arrived San Carlos. Original intentions to travel in three small and one large boat. Lieutenant Cunningham, C.O., Waspuc, ordered my boat out as third boat. Sgt. Murphy and six enlisted in fourth boat have not caught up.

"7-23-28. Weather: rain; river, high. 1630. Arrived Awawas. Motor boat with Pfc. White and Pvt. Bogan (59th Company) capsized in the rapids prior to my arrival. Found Pvt. Bogan on rocks but no trace of Pfc. White. Salvaged motor and boat after several hours. No report of or from Sgt. Murphy. Am leaving four cases gas and two motors here at Awawas.

"7-24-28. Continuous rain. River rising rapidly. 1630. Arrived Tilba Ducra. Barely made it through Tilba Rapids in one day. River at such height that travel is almost impossible.

"7-25-28. Continuous rain. River at flood. 0930. Left Tilba Ducra at 0600. Returned after proceeding about 200 yards. During night river rose about 10 feet; impossible to proceed until flood recedes."

He left Tilba Ducra on the morning of the twenty-seventh. On the twenty-eighth, "1800. Arrived Siksayere. Showers. River rising rapidly—expect flood. Slow travel due to having to cut trees and underbrush along banks of river."

He was forced to lay over at Siksayere during the next two days. On the twenty-ninth, he recorded: "Weather, continuous rain. River at flood height. Due to height and swiftness of water and driftwood, it is impossible to travel through rapids (Kiplasaura) just above here. Am compelled to wait until water recedes," and on the thirtieth, "River highest of year, making smallest rapids impassable. Cannot go forward or retreat at present."

Although the rains continued, the river abated to such an extent that he resumed travel on the last day of the month. At Raiti, on the first of August, he "Found outpost without rations; left four days' supply." At daybreak on the third, he split his patrol into two groups. One officer and eight enlisted men left Susanwas in the bateau with motors attached, and nine enlisted followed in the poling boat. After narrowly averting disaster because of motor failure in the Pansig Rapids, he arrived late that afternoon at Bocay. The poling boat reached that place at one-thirty on the afternoon of August fifth. Late the same day, Cook, with twenty-one enlisted, departed from Bocay in the same two boats for Poteca and Santa Cruz, camping that night at Santa Rita.[32] Sergeant Murphy and six enlisted men were still at Waspuc on the first, his boat and boat crew having been retained for emergency use at that post. The nine men who had arrived at Bocay that day remained there and four others were either sick present or had already been evacuated to Puerto Cabezas for hospitalization.

It has been impossible for me to adequately describe the hardships which these men in the Coco Patrol endured during those days of July. These few remarks of Lieutenant Cook's will have, perhaps, shed a little more light on the difficulties which we encountered. It was heart rending, back breaking work; pushing, lifting, pulling boats through one rapid after another; carrying supplies and equipment around innumerable portages; living on two scant meals a day and seeing what food remained swept away little by little in the flood; every canyon, every rock, every clump of bushes a hiding place for bandits, a possible ambush; the muddy, swirling, treacherous river, filled with debris of every sort, seeming always to be reaching out to destroy that small group of men who dared to use it in its zenith; scarcely a day that some boat did not capsize; never a day that some man was swept into the current, to be saved only by his own ability to swim, by the quickness of his fellows, or by sheer good luck; always wet, always cold, living in wet clothes and blankets at night; never thoroughly dry; and through it all, the interminable rain,—depressing, demoralizing, unceasing. Only those men who were there, and those who later were with Major Geyer's Coco River Patrol of the Northern Area which was abandoned because of the difficulties which they encountered, can ever realize the things they had to compete against, the difficulties they had to overcome.

On the morning of the sixth of August, we resumed our advance up the river from Mastawas. Our progress was slow because of the necessity of the shore flank patrols having to pick their way through the heavy underbrush along the river banks. There was a good wide trail of recent construction along the north shore, evidently used by the bandits as a military road, if such a thing could be said to exist in Nicaragua, but it was too far away from the river to be of value to us. About two miles above Mastawas, we had our next contact with the outlaws. A small patrol, coming down river by boat, was sighted by our leading element as it approached a bend in the river. At the same time, they spotted our boat flotilla and paddled furiously into the beach. Although fired upon, they all escaped into the brush and retreated up-river. Blood stains along their trail indicated that our fire was not entirely without effect, but once again we had lost an opportunity to capture someone who could have given us vital information of the hostile dispositions above us.

The farther we advanced above Mastawas, the more positive signs we discovered of bandit occupation of the valley. An abandoned lean-to encampment, numerous broken down, saddle-sore backed mules, discarded aparejo and saddles, and the well beaten heavily traveled trail were all indications of a good sized force in the vicinity. Deserted houses which had evidently been hurriedly vacated also pointed to trouble ahead. At Yamales and Ililiquas, two small settlements about a mile and a half apart which we reached on the morning of the seventh, we found a veritable net-work of trails leading in all directions and all well traffic-worn. All of these were patrolled for a radius of a half mile without contact with either civilian or outlaw. A small

[31] RECORD OF EVENTS, Coco Patrol Detachment under Lieutenant J. S. Cook, Jr., U.S.M.C.

[32] "The lack of Indians and boats here delays the departure of remainder of Coco Patrol." (Lieut. Cook, RECORD OF EVENTS, Bocay, 4 August, 1928.)

cache of firearms, bomb fuse, rude leather-covered hand grenades, bandit correspondence and other articles found in the largest house at Yamales identified the heaqquarters of Jiron, Sandino's most aggressive leader and shortly to become his Chief of Staff. At Ililiquas we discovered twenty riding saddles, all in good condition, and some of the booty, including an American flag, which the outlaws had procured during their raid of the Pis Pis mines. Most of this, being of no use to us, we destroyed.

At a quarter of twelve, just as the order had been given for the advance to be resumed above Ililiquas, two OL-8 amphibians from Puerto Cabezas came into sight. They dropped mail and sixteen sacks of rations, and Captain Howard, the senior pilot, made several unsuccessful attempts to pick up a message I had prepared for the Commander, Eastern Area, because of the poor approaches afforded by the terrain. Shortly after twelve o'clock, both planes headed back for the east coast.

The approaches to the dropping ground at the junction of the Ililiquas and Coco Rivers and for the attempted pick-up were made each time from south to north so that the area along both banks of the river for a mile above Ililiquas to include the first big bend up river was flown over at least twenty times. Although I was soon to learn that a cleverly concealed ambush was already laid and occupied in this very area, nothing suspicious was seen by either pilot or observer. In the meantime, Lieutenant Conway reconnoitered the valley to the south and at "1200—On bend of river approximately two miles up river from Captain Edson's column sighted four natives who were suspicious and acted as tho they were on sentry duty. They took to bush. Dropped bombs and straffed area. Flew back to Captain Edson and reported entire event."[33] We, on the ground, heard the bombing and straffing and naturally were very much interested in knowing the reason therefor. One can imagine my disappointment when, after retrieving the message dropped by Conway's observer, I found only the following: "Dropped two bombs." This contained nothing which I did not already know and I was still as much in the dark as to what had been sighted to call for this attack and where it was as ever.

I have not made these remarks in any spirit of criticism or derogation and I sincerely hope that they will not be so construed by either aviators or line personnel. No one in the Marine Corps realizes more than I the dangers which our aviators faced day after day and the tremendous difficulties of terrain and weather which they disregarded or overcame in giving the man on the ground constant and excellent support during our entire activities in Nicaragua. These incidents are recorded for the sole purpose of emphasizing, if possible, the importance of recognizing the capabilities of aviation on the one hand and the necessity of complete exchange of information on the other if we are to work together as an efficient combat team.

There is a tendency among the uninformed to consider that the powers of aviation are unlimited. In close, heavily wooded and rugged terrain, a position can be constructed and occupied by a considerable force without fear of detection from the air so long as the occupants remain under cover and motionless while airplanes are operating above them. This should be thoroughly understood and the responsibility of a ground troop commander to maintain and continue proper security measures is not lessened by the fact that the area he is to pass through has been reconnoitered in front of him by aviation.

In the second incident, Lieutenant Conway was fully aware of the importance of the target which he had engaged. Being occupied with the maneuvering of the plane and searching the terrain over which he was flying, he simply told his observer to prepare the message which was to be dropped to me. The man in the rear cock-pit had not seen all that Conway had, and in writing "Dropped two bombs," he had reported all that he, himself, knew about the affair. The mistake here was in not showing the message to Conway for his approval before it was dropped. To be of much assistance to the man on the ground, this message should have contained: what he had seen, where he had seen it, what he had done about it, and the effect of the aerial attack as observed. In my opinion, there is never any danger of the observer, either ground or air, passing on too much information; the tendency is rather to report too little.

The house at Ililiquas was some thirty feet above the Coco River and about three hundred yards from it. There were boat moorings at the junction of the Ililiquas and Coco Rivers as well as on the Ililiquas opposite the house. Trails led from both moorings. There was an equilateral triangular shaped clearing with its apex at the junction of the two rivers and its base line passing just east of the house. The ground sloped gradually to the east and southeast from the house with a good trail leading off in that direction. To the north, the ground had at one time been cleared for several hundred yards on both sides of the Coco. At that time, there were patches of corn, sugar cane and bananas and the remainder was overgrown with manaca, underbrush and second growth hardwoods. Directly across the river on the west bank was a large banana patch with trails running to the north and south out of it. The valley to the north as far as Yamales was wide open, with the hills sloping away quite gradually from both sides of the river. A thousand yards south of Ililiquas, however, the valley became narrow with the hills rising abruptly to the east and west, that on the west bank of the river being almost precipitous, and the river itself, for another thousand yards, was narrow, swift and deep. It then made a sharp bend to the west and the country again opened up. Even through the gorge, there was a sandy shelf along the banks of the river some twenty yards wide and five or six feet above the water level, filled with boulders, uprooted trees and dense underbrush.

At twelve forty, after a luncheon of hard-tack, coffee, and salmon and corned beef which had burst in the drop from the planes, shore patrols of one squad each from the 1st Section moved out on both banks followed by the boat flotilla in its regular formation on the east side of the river.

As the patrols approached the gorge south of Ililiquas, Corporal Porter, in command of that on the right (east) bank reported bamboo bush and heavy underbrush at "A" (see sketch) as impassable. I ordered the advance guard boat to pick up that patrol and carry it beyond the obstruction where it would disembark and then resume its movement along the shore. At the same time, Sergeant Mosier, in command of the

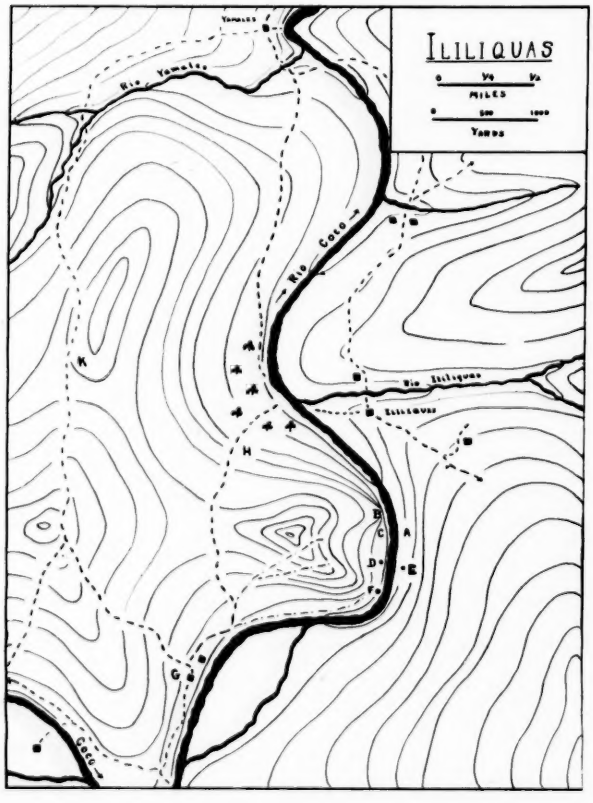
[33]FLIGHT REPORT, Aviation Detachment, VO-6M, Puerto Cabezas, Nic., 7 August, 1928.

west shore patrol at "B," reported an overhanging cliff reaching almost to the water's edge and his way blocked by a thick mass of bamboo bush.

Even confronted with these obstacles, the shore patrols had performed the function for which they were established. The sight of Marines on the east bank of the river and the approach of other men along the shore below him when he had expected to see all of our force in boats so frightened a bandit in position at "C" that he jumped up and ran to the south. A few scattering shots, all without effect, were fired at him before he again took cover.

Ordering the third squad of the 1st Section, which was in the boat behind mine, and Corporal Porter to follow me, and calling to Mosier to cut his way through the brush in front of him, I crossed the river and with Yelanich and Paine, my two runners, and Arthur Kittle, landed just below the point at which the bandit had shown himself. Almost immediately I found myself looking down the muzzle of a rifle in the hands of an outlaw who jumped up in front of me. At this crucial moment, my automatic pistol produced a misfire. Except for the fact that I tripped over a vine and fell forward just as the bandit pulled the trigger, it is possible that I might have been hurt. Before he could reload his rifle, Yelanich had taken good care of that outlaw. We pushed forward and overran the next group of fox-holes when rifle fire, estimated at twenty-five, opened from our front and right flank, and two hostile machine guns located at "D" and "E" came into action.

By this time Porter's squad was ashore and it was committed to the front along the sandy shelf paralleling the river. Sullivan's (3rd) squad was sent up the hill to the west to engage bandits and rifle fire coming from that direction. As bandits were still coming around our right and rear, the squad under Mosier was used to extend our flank still farther to the right when it finally cut its way through the bush and came up. The machine guns were so sited as to rake the shore line along both banks of the river and bullets were falling in the water all around the boats containing the second section and mess detail. Boatmen and Marines went over the side and, hanging onto the boats, keeping them between themselves and the machine gun fire, they drifted down stream out of range. Always before when a man had gone into the river, he had inevitably lost his rifle and ammunition. This time, however, every man came ashore fully equipped and no one later reported any difficulty in staying above water.



Firing had started at about a quarter past one. By two o'clock my three squads were extended up the hill in a line a little north of west from the river bank. The second section was reassembled at the edge of the clearing near Ililiquas and ready to advance. The hostile machine gun at "D" had been withdrawn and, except for an occasional shot from the right side of the river, all bandit fire had ceased. I sent Sergeant Mosier back to Ililiquas with instructions to order the second section to advance along the right bank and drive out the hostile force at "E" and to cooperate with a corresponding advance by the 1st section on the left bank of the river. Mosier was then to take charge of the boat flotilla and follow the combat units at a reasonable distance in rear. Coordination between the sections on opposite sides of the river was to be maintained by the flank men of each assault unit. Private Myer Stengel volunteered for this duty for the second section. The left squad of the first section was to move slowly along the beach and act as a pivot for the remainder of the section which was to swing over the crest of the hill to the right and envelop the bandits' left flank.

This plan was put into effect at three o'clock. The second section advanced and drove out the small hostile group at "E." In order to control the enveloping movement, I had moved up the hill towards my right. Contrary to instructions, the left squad also moved up the hill to engage a small group of bandits, thus leaving the beach uncovered. At three thirty, the second section was about a hundred yards south of "E" and the leading boat about opposite "D" when a burst of machine gun and rifle fire was opened up from the bandit group at "F." The second section immediately returned the fire and the outlaws hurriedly withdrew to the west. By this time, the first section was over the crest of the hill. Some of the retreating bandits actually ran into this section and others came under its fire as they crossed the low ground near the river. The first section continued to advance without further contact until, at four-thirty, it was south of the two houses shown at "G." All communication with the remainder of the patrol had been lost. I considered it essential that my small force be reunited before dark so I ordered the first section to return toward Ililiquas along the left bank of the river. As we approached "D" we exchanged a few shots with a group of outlaws coming from the northwest. This group withdrew into the brush and this concluded the action.

We reached Ililiquas at six o'clock that evening. The remainder of the patrol was already assembled there.

Three men, riding in the leading boat of the flotilla as it had resumed its movement up river that afternoon, had been caught in the burst of fire from the hostile machine gun at "F." They had jumped into the water and, mutually supporting each and assisted by the Indian boatmen, had drifted with the boat down stream out of range, coming ashore at Ililiquas. The other boats in the column had dropped back with them. After the bandits had fled from their position following the well directed fire of the second section, those two squads had dropped back to protect the boat train and the wounded men.

Private Stengel was reported missing. His body was found near the beach below "E." He had been hit squarely in the chest with a dum dum bullet and apparently had died instantly. The hazardous duty of flank connecting file for which he had volunteered warranted the Navy Cross, which was awarded to him posthumously.

Sergeant Mosier had been wounded through the left shoulder; Sergeant Schoneberger in the left arm, with the bullet still there, and Trumpeter Paine through the left side of the neck. With only the limited supplies carried in his field kit—all others had been lost in the Callejon Rapids—and improvised bandages, Maddux, my corpsman, had dressed the wounded and had them resting comfortably by the time I got back to camp.

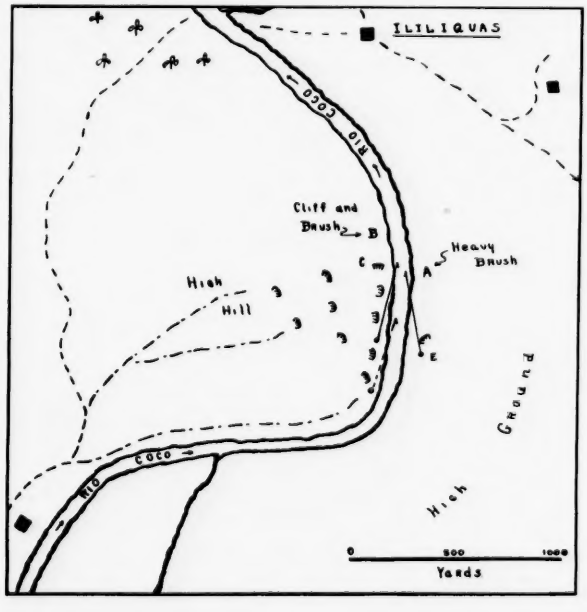
It was nearly dark and nothing more could be done that day. Guards were detailed for the night, camp established, preparations made to evacuate the wounded and the body of Stengel to Bocay by boat, supper prepared and eaten, and orders issued for the continuance of the advance the following morning.

Each man had been carrying two extra bandoleers of ammunition besides that which he had in his belt. This represented all the good ammunition within the patrol and no more would be available until our supply system was established from the East Coast. Each man had been impressed with the necessity of conserving his ammunition, and instructed to shoot only at exposed or likely targets. As a result our expenditure was light, averaging less than twenty rounds per man. More ammunition was lost from the bandoleers than was shot through our rifles. That evening, all extra ammunition was collected and placed in boxes to accompany the supply section of the boat train the next day. From then on, only the hundred rounds which could be placed in the belt were carried on the person.

The bandit casualties were ten known dead and three wounded. Twelve rifles, some ammunition and machetes were captured. The weapons from my own casualties and the best of those taken from the bandits were used to replace those which had been lost in the river during our advance from Waspuc so that every available man in the patrol was again armed with a serviceable weapon of some description. The outlaws were well organized, well disposed and well led. They were uniformly dressed in blue denim and looked less like the orthodox bandit than did we with our month's growth of beard, worn out clothing and broken shoes. Each man had a red and black band around his arm and on the brim of his hat. Riflemen had from five to ten rounds of ammunition on the person, although from the amount expended, machine gun ammunition appeared to be plentiful. Numerous hand grenades of the home made variety were employed by them during the engagement with no effect other than in bolstering up their morale with their loud report. The machine guns were sited to shoot in one direction only and were not traversed. During the engagement, the bandits held their position until we almost over-ran them and dug them out from their cover one by one. Nearly all of the fighting was at close quarters. The accompanying sketch gives a fair idea of the organization of the ambush. Several shallow trenches were made along the sandy shelf above the overhanging cliff and thick bamboo bush at "B" which acted as a natural barrier on the down river side. The trench farthest down stream as well as that near the ninety degree bend in the river were sited to cover any advance up-river. The others were separated by intervals approximately equal to the distance between the boats of our column and overlooked the river. Up the hill in rear of these trenches there was another series of fox holes, each occupied by one or two men, and behind them, a third row near the crest of the hill. Trails had been cut leading into the position from the up-river side so that there was no indication of the ambush when approaching from the north. The position on the right bank was similary prepared except that it was farther up hill from the edge of the river and consisted of only two small trenches. It was evident that the outlaws expected my entire patrol to be in boats and that the plan was to let the patrol enter the ambush before it would be engaged by rifle fire and hand grenades from the selected position opposite each boat and on the bank above it, the machine guns to enfilade the boats as they drifted down-stream with the current. Except for my shore patrols, it would undoubtedly have succeeded.

The following report was written that night to the Commanding Officer, Eastern Area, and sums up the day's events as they appeared to me at that time:

"8607—Have the following to report: At 1312 this date, made contact with band of about 60 bandits, thought to be of Jiron's force, three quarters of a mile above this place—where planes made contact and



dropped supplies. The engagement was fought on both sides of the river and lasted until 1600. At that time contact was lost, the bandits withdrawing to the west. To unite my force, it was necessary to drop back to this place, contact between the forces operating on either side of river having been entirely lost.

"Our casualties consist of following: Killed in action, about 1530—Private Meyer Stengel, as result of dum dum bullet entering right breast at nipple. Wounded—Sgt. Melvin A. Mosier, Sgt. Russel Schoneberger, Drm. Thomas E. Paine.

"Enemy casualties: 10 killed, 3 wounded.

"The majority of bandits were armed with Remington 1916 (Russian) rifles. They had two machine guns emplaced and one automatic rifle.

"There were no casualties among the Indian boatmen. They were under fire twice and conducted themselves exceptionally well.

"I am returning the three wounded to Bocay tonight. Immediate hospitalization for Mosier shot through left breast, and Paine, shot through neck, is absolutely necessary. Schoneberger is wounded in left arm, with bullet still unextracted. Am sending Stengel's body to Bocay for interment.

"Pvt. Binkley is being returned as guard—sore feet and unfit for duty.

"Am advancing tomorrow at daybreak to next house and possibly to Espanolita. There is no good defensive position this side of Mastawas. If forced to withdraw, will dig in there.

"This place is only one day's hike from Sandino's stronghold on the Poteca River.[34] Espanolita is but three hours from mouth of trail connecting with his camp. From papers found, I believe his entire force has concentrated and that we can expect a large body, probably tomorrow. Planes should make contact with us daily.

"Please give following your immediate attention: I have no medical supplies or instruments. Drop following as soon as possible: Iodine, gauze, bandages, absorbent cotton, adhesive tape, hypodermic syringe, complete with needles and dope, one pocket case of instruments. We could not treat wounds today because of no supplies. This needs immediate action.

"Morale of command: Excellent. Every man did all that could be expected. 2215."[35]

In February, 1929, Jiron was captured by a patrol from the Northern Area and the following is extracted from the statement made by him concerning this engagement:

"About two weeks after the Hunter contact at Zapote, on May 13th, Sandino moved his headquarters to Wamblan. He established an out-post under Jiron about two miles east (down stream) from Ililiquas, with a second outpost still further down stream under Montoya.

"When information was received that a Marine patrol was moving up the river, Montoya's outpost was withdrawn, except a few caretakers for the camp. Jiron was ordered to withdraw to Ililiquas, where he was to give battle. He then had 30 men with rifles and one Lewis machine gun. Sandino was to support Jiron with about 30 men, equipped with rifles, one sub-Thompson and two BAR's. Altimirano, with a force of about equal size, was ordered to block the trail on north side of Coco River which branches off down stream from Ililiquas and runs parallel to river. This was planned to prevent the Marines from outflanking the bandit defensive position.

"Jiron wanted to place his troops on the south (right) side of the river where, he claims, there was better cover, better observation and where the river current was too swift to admit of landing from small boats on that side. He had a report that the Marines were pulling up stream in five open boats and he planned to dispose his men in five groups, permit the boats to slightly pass the respective positions of his groups and then open fire. Sandino interfered with his plans and required him to take up a position on the north side of the river.

"As the Marine patrol appeared down the river, Col. Colindres became excited and showed himself. Whereupon the Marines immediately opened fire, drew their boats to shore and pushed home the attack. For some reason unknown to Jiron, Sandino, who, according to plan was to support the defensive position, ran. Jiron found him that night in Wamblan where he had returned to his mistress, Terena Villatoro.

"Jiron heard firing on his left flank, but thought it was Altimirano, knowing that he had been stationed in that direction. He was amazed to find that Marines were closing on his flank and rear. His command was shot to pieces and he narrowly escaped capture, finally reaching Wamblan that night with one man. Jiron lost seven known killed and twelve missing. Three of the missing have been located, but were wounded.

"Sandino had not properly reconnoitered the ground, and did not know that the trail on which he stationed Altimirano was nearly four miles from the river at that point. This blunder dispersed his forces, removed Altimirano from the scene of action at the critical moment and gave Jiron a false sense of security on his flank. There was a bitter quarrel as a result—Jiron and Sandino blaming each other for the defeat. After this was patched up, Jiron was made Chief of Staff."[36]

From a study of the above, it is believed that it was the troops under Sandino who were seen and bombed by Lieutenant Conway at "G" on the seventh, and that this airplane attack was instrumental in causing Sandino to withdraw to Wamblan without supporting Jiron later that afternoon. It is probable that Altimirano was to block the trail "H" leading from the banana patch across the river from Ililiquas and that instead he was somewhere along the trail "K" during the fight. Had he been at "H" as planned and come into action at that place, engaging us in our rear, he could have made it extremely embarrassing. As it was, he did not show up in that area until just before dark.

The moon rose the night of the seventh-eighth of August at about midnight. A little after one o'clock, Binkley, the three wounded men and Stengel's body were place aboard our largest pitpan and, with an Indian crew of two, started down river for Bocay. The trip was made without mishap and they arrived at that place just before noon on the morning of the eighth. Two amphibian planes had just landed and the wounded men were immediately transported by air to Puerto Cabezas, where they were hospitalized in less than twenty-four hours from the time they were wounded. All three of them recovered. Mosier and Schone-

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[34]Author's note: It was actually two days' travel, about twenty-five miles.

[35]FIELD MESSAGE No. 2, from Coco Patrol at Ililiquas, Nic., to CO EASTERN AREA, dated 7 August, 1928.

[36]MEMORANDUM, undated, "Capture of Genral Manuel Maria Jiron and Information Obtained from Him," issued by R-2, NORTHERN AREA, Ocotal, Nicaragua.

berger are still in the Marine Corps and Paine is, I believe, working in or near Boston, Mass.

At about three o'clock in the morning, I was awakened and informed that a group of bandits had been discovered on the trail down river from us. I investigated and decided that this information was correct. My force had been reduced to forty-one men. I had lost my two senior non-commissioned officers, the only sergeants with the patrol. I had received a position report placing Lieutenant Cook's detachment near the foot of the Callejon Rapids. He could not reach Ililiquas in less than four days. Although I knew that we had inflicted a much greater percentage of casualties on the bandits with whom we had been engaged than we had suffered, I was certain that we had been fighting only one group of the total outlaw forces available in that area. So long as I could keep them in front of me, I did not consider that I had much to worry about. However, if they should so dispose their forces as to take me from both front and rear, my small patrol would be in a bad way. Also, Lieutenant Cook's detachment, traveling in only two boats, one of them equipped with outboard motors, was considered to be especially vulnerable to ambush and rough treatment if the outlaws should interpose a group between us. It seemed best to me to effect a junction with Cook before proceeding farther up-river so, just before dawn, my patrol embarked and drifted down stream to Mastawas.

On the eighth of August, two planes from Managua made contact with us. From that day on, except for occasional supply missions from Puerto Cabezas, all of our air support came from Managua. We had advanced so far inland that there was a difference of an hour and a half's flying time in favor of the planes from the west coast.

Cook and his detachment arrived late on the afternoon of August ninth and the advance up the river was resumed the following morning. On the fourteenth, we lay over at Espanolita for the day while two patrols were sent down river to investigate the territory to our rear through which we had just passed. At about eight o'clock, one of these patrols made contact with a small group of bandits under the command of Abram Rivera, commissioned a Colonel and Chief Cargador by Sandino. He was bringing supplies which had been taken from the Pis Pis mines and cached near Garrobo on the Bocay River when the bandits had left that place in May and he was to turn them over to Sandino in the vicinity of Poteca. As a result of this contact, four bandits were killed, one wounded and Rivera himself was captured. A half hour later, another small patrol sent up river from our encampment made contact with a group of outlaws reconnoitering the trail toward us. Perhaps the most important result of these two contacts was the capture of Rivera's cargo, which contained hats, clothing and shoes. These were turned over to my men to replace their own worn out uniforms. Every man was down to the articles which he wore on his back. Many were hatless; underwear was unknown; shirts and trousers were tattered and torn; and the shoes of several men were so broken that cloth was used as inner linings to protect the feet. Add to that the fact that no one had shaved in over a month and one can imagine what a fine looking outfit we were.

We reached Poteca on the morning of the seventeenth. Although the name was printed on the existing maps in large letters and indicated a settlement of considerable importance, we found only one house located at the junction of the Poteca and Coco Rivers, the walls constructed of mahogany, the roof tiled—with a large hole in the middle of it where one of our aviators had made a direct hit with a thirty pound bomb—and a dirt floor, with an old sow as the single occupant. Its position dominated the Poteca and Coco Rivers. The river below the clearing passed through a narrow, deep canyon which offered the best place for an ambush above the Callejon Rapids. I, for one, was certainly glad that the bandits had chosen to defend at Ililiquas instead of Poteca, for the latter would have been infinitely more difficult to attack.

There had been no contact with the outlaws since the fourteenth. Every indication, confirmed by air reconnaissance and such meager reports as we could get from an Indian boatman who had been with Sandino and who was captured on the sixteenth, pointed to the fact that the bandits had been driven out of the valley and has dispersed in small groups to the northwest, west and south. What we had accomplished was summarized in a Brigade report to the Major General Commandant:

"The advance up the Coco was laboriously continued. Two more small contacts were had. Finally, Edson reached Poteca on August 17, 1928, having inflicted the following known outlaw casualties:

"Fourteen killed, four wounded (escaped), five taken prisoners; and having captured a total of 54 firearms.

"From the standpoint of difficulty, danger, isolation from friendly ground troops, and accomplishments, this small expedition is without parallel in the hard work done by this Brigade."[37]

We had, then, successfully completed the more difficult part of our mission, "to proceed up the Coco River, to drive the bandits from the river valley, destroying such groups as we might encounter, to take . . .Poteca." There still remained the task of establishing a base at that place, four hundred and seventy miles from our source of supplies, and to continue patrolling to the southwest to form a junction with patrols from the Northern Area in the vicinity of Santa Cruz.

[37]THE SAGA OF THE COCO; by Major Edwin North McClellan, U.S.M.C.; p. 77, The Marine Corps Gazette, Vol. XV, No. 3, November, 1930.

"CATERPILLAR" ANNOUNCES TWO NEW GRADERS

■ Two new blade graders, in 12-foot and 10-foot sizes, have been added to the "Caterpillar" grader line. These new models have single member frames and will be known as No. 66 Single Frame and No. 44 Single Frame, since they are in the same weight classes as the No. 66 and No. 44 Double Frame models. They are offered in both power and hand control.

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